TELEPHONE and Management ENGINEER

DEPT.

MARCH
1955

V59 No-3

THE NATIONAL TELEPHONE MAGAZINE

Featuring in This Issue—

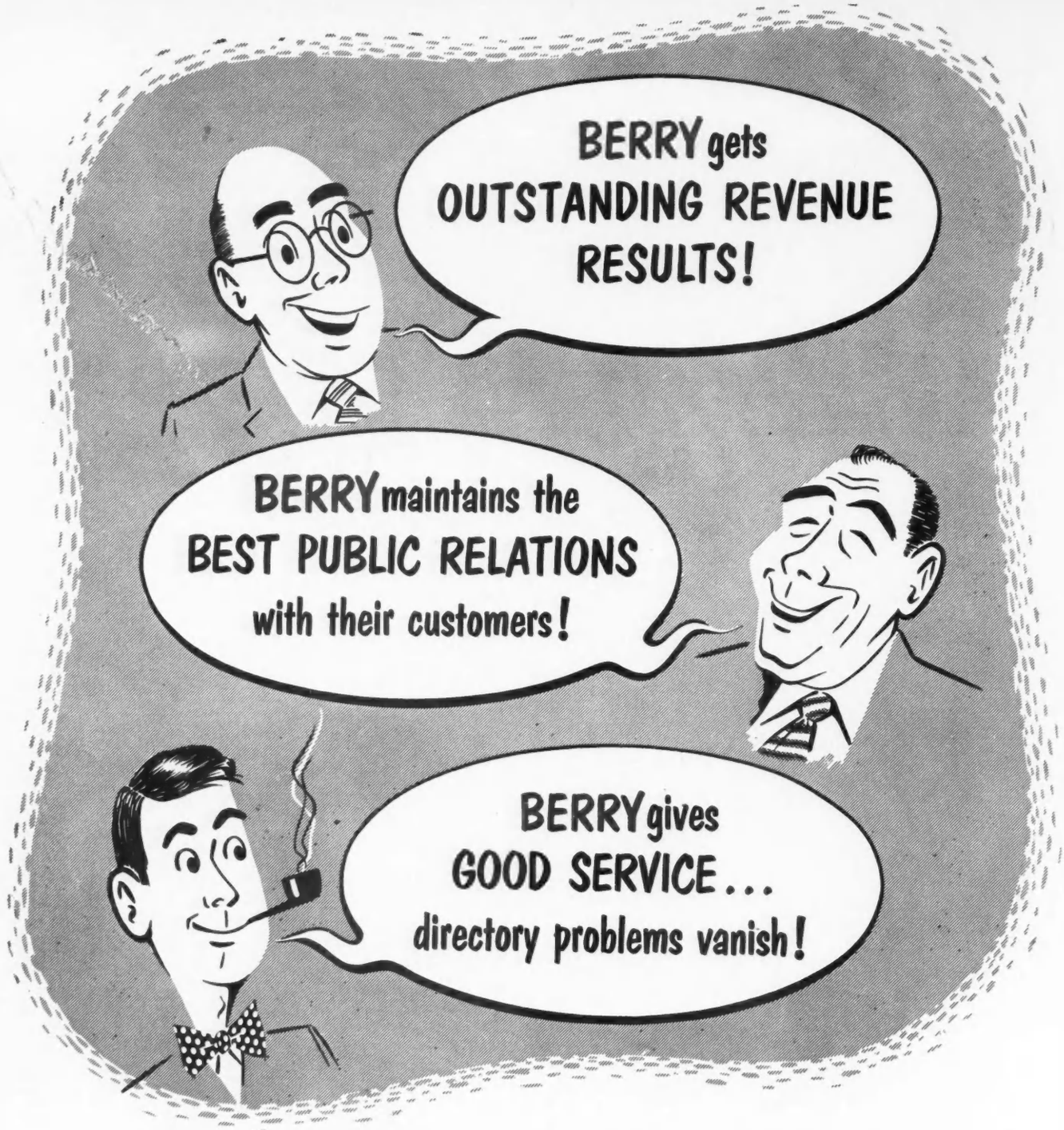
★ EDITORIAL—"LOCAL & LONG DISTANCE . . . PLUS!" Page 41.

★ TELEPHONE INDUSTRY NEWS BRIEFS, Page 16.

★ FINANCING RURAL TELEPHONE SERVICE, by E. C. Wellzell

★ TRAFFIC OPERATING TECHNIQUES, by Ruth E. Richards

★ MODERN CABLE CONSTRUCTION, by John S. Reed



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TELEPHONE and Management ENGINEER

A Telephone Engineer Publication

MARCH 1955

Vol. 59 No. 3

The National Telephone Magazine

Editor, **RAY W. SMITH** • *Advertising Director,* **ROY F. SMITH**
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Washington Bureau, Editors of "Telecommunications Reports"
Small Company Editor, **BILL CORMAN**
Circulation Manager, **JOYCE McDONALD**

ARTICLES

Editorial — "Local & Long Distance-Plus"		41
Financing Rural Telephone Service	E. C. Weitzell	45
Operating Techniques	Ruth E. Richards	51
Small Company Talk	Bill Corman	56
Modern Cable Construction	John S. Reed	59
New Equipment and New Methods	John G. Reynolds	72

FEATURES

Coming Conventions		26
Telephone Engineer Newsletter		9
Telephone Industry News Briefs		16
Washington Bureau Reports		32
Across The Editor's Desk		38
Questions and Answers	Jay G. Mitchell	79
Millionth Telephone Installed In Florida		82
Suppliers' News Briefs		86
The Back of The Book	John G. Reynolds	118

DEPARTMENTS

Professional Advertising	100
New Products' Showcase	103
Buyers' Guide	104
Classified Advertising	106
Advertisers' Index	117

FRONT COVER

Merchandising of telephone facilities was discussed by personnel of Community Telephone of Wisconsin at recent dinner meeting. See page 34 for complete story.

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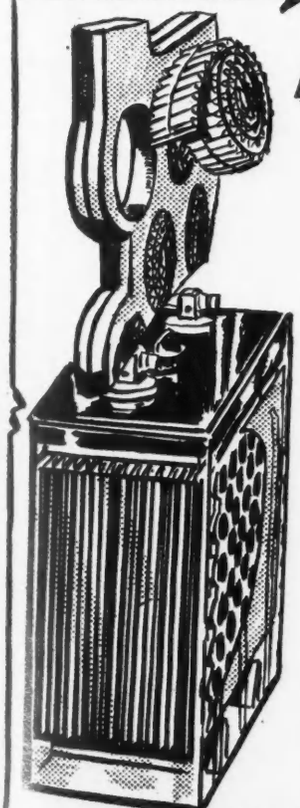
...BACKED BY DEPENDABLE EXIDE-MANCHEX BATTERIES

WAR OR PEACE, MAN-OR NATURE-MADE DISASTER, THE CALLS MUST GET THROUGH. GUARANTEEING OPERATION OF DIAL EQUIPMENT AND PROVIDING AMPLE POWER FOR CIRCUITS ARE THOUSANDS OF MANCHEX TELEPHONE BATTERIES BUILT BY EXIDE TO ASSURE CONTINUITY OF SERVICE ... POSITIVE OPERATION OF EQUIPMENT.



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THE IMPROVED PLANTÉ TYPE POSITIVE PLATES OF THE EXIDE-MANCHEX BATTERY ARE OF THE MANCHESTER DESIGN—AN EXCLUSIVE EXIDE FEATURE. BUTTONS OF LEAD DELIVER THE POWER YOU NEED, WHEN YOU NEED IT. OVER A HALF CENTURY OF DEPENDABLE PERFORMANCE IN TELEPHONE BATTERY SERVICE HAS DEMONSTRATED THAT EXIDE BATTERIES WITH THEIR BUTTONS OF POWER ARE YOUR BEST POWER BUY—

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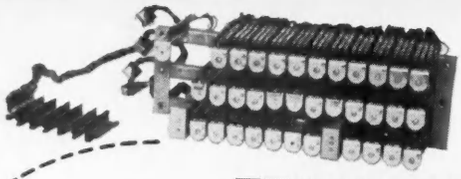
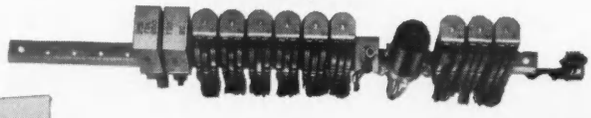
Exide INDUSTRIAL DIVISION, The Electric Storage Battery Company, Philadelphia 2, Pa.

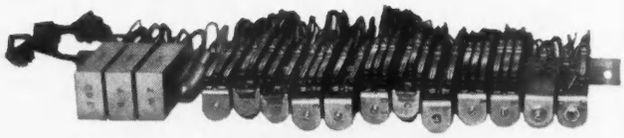
NORTH CXJack-in

NEW JACK-IN
CONTROL RELAY
UNIT



NEW JACK-IN
INTERRUPTER
STRIP





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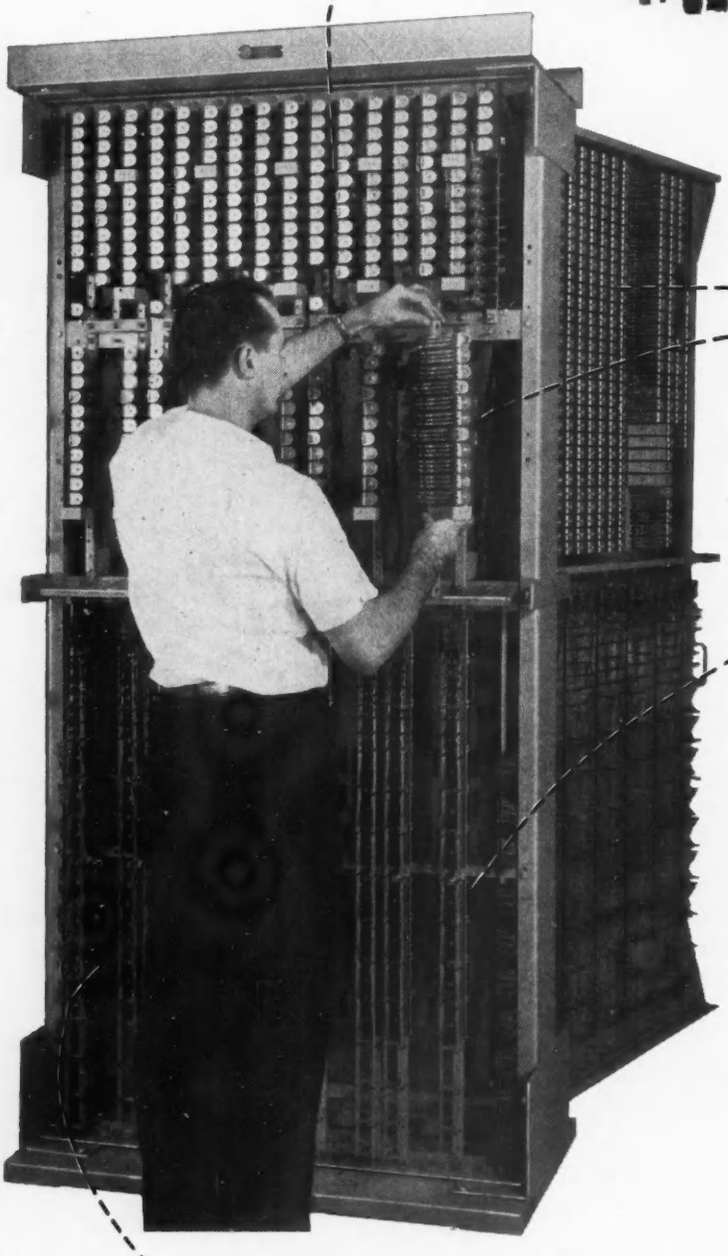

NEW JACK-IN
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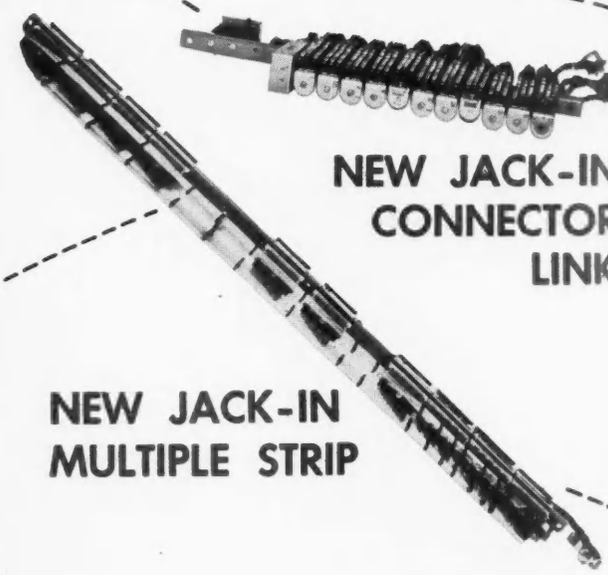
LINK



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MULTIPLE STRIP

Retaining and improving
All of the time tested

NEW TERMINAL STRIP
Cabled From TOP
Can be swung free at Handy Level

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A complete *All-Relay* Jack-in Design

This is the new model of CX equipment with Jack-in components, designated as CXJ. Every advantage upon which the fine reputation of North CX is built is engineered into the CXJ type PLUS the special features listed here, not previously available.

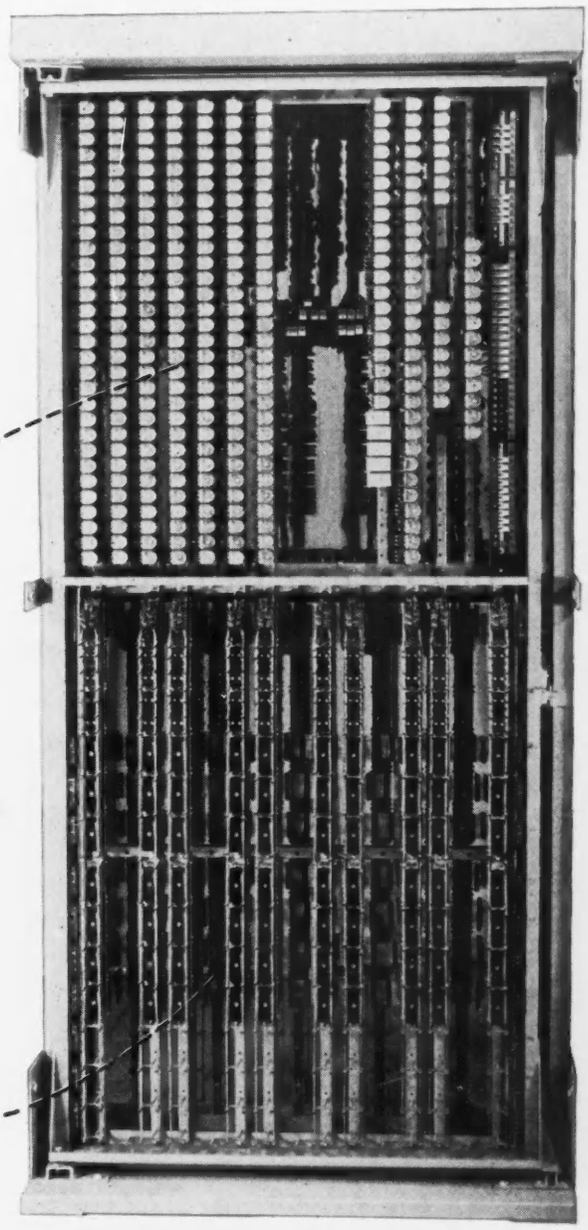
It is important to note that North CXJ, in addition to the advantages listed, saves space as well as time in installation and in maintenance. 100 lines with 15 links of CXJ are contained in a cabinet 40" wide 93" high and 22" deep. The complete CX All-Relay function, so thoroughly proved in use, is accomplished by simplified circuitry with fewer relays.

Complete detailed specification sheets and other information are available on request. A North sales engineer will call on you with full engineering advice concerning the application of CXJ to your system.

Available in Canada through ERICSSON TELEPHONE SALES of CANADA, Ltd. 1410 Stanley Street Montreal 2, P.Q.

Featuring the New North Reed-Armature Relay

NEW JACK-IN LINE RELAY STRIP



NORTH CX advantages

THERE'S A NEW BULLETIN READY... HAD YOUR COPY?

THE NORTH ELECTRIC MANUFACTURING COMPANY

655 South Market Street • Galion, Ohio

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Spring Construction and Maintenance Issue

Telephone Engineer & Management

April 15, 1955

Probably the most valuable sales aid of the year for manufacturers and firms selling telephone equipment, supplies and services to the $15 Billion telephone industry. Special editorial features on new methods of construction, new wrinkles in maintenance plus many new products being introduced for the first time will cause this issue to be saved and referred to time and again. Plan your advertising to take full advantage of this important number.

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NEWSLETTER
TELEPHONE ENGINEER

Fortnightly TELEPHONE ENGINEER ★ TELEPHONE ENGINEER AND *Management*
ON THE 1st OF EACH MONTH ON THE 15th OF EACH MONTH

Dear Sir: March 15, 1955

IN LINE WITH SIMILAR REQUEST of American Tel. & Tel. Co. of last October, US Independent Telephone Association filed statement with FCC urging that Commission change its telephone accounting requirements to provide that charitable & similar contributions be placed in category of operating expenses, rather than, as at present, in category of miscellaneous income charges.

U.S.I.T.A. explained there has been "a gradual change in the attitude of the public concerning the responsibility of corporations in connection with contributions of this type" since the FCC's uniform system of accounts was first prescribed to become effective in January, 1937, & that local fund raising organizations now rely heavily upon corporations, including local telephone companies, for financial support and assistance.

In most cases, U.S.I.T.A. said, contributions by corporations "are essential to the success of the undertaking," and "refusal to cooperate is not regarded as being in the best interest of either the telephone company or the community." Filing added that for this reason, corporate expenditures in form of contributions "are as much a necessity today as payments covering taxes, payrolls and the purchase of materials, supplies, etc." and should be accounted for as necessary business expenditures.

* * *

FCC EXAMINER H. GIFFORD IRION was expected to grant motion by Commission counsel William M. Lesher to extend date for filing proposed findings & conclusions in case involving Southwestern Bell Tel. Co. acquisition of Tomball (Tex.) Tel. Co. to March 21 from previously-scheduled March 7. There was no objection registered by Southwestern Bell or the intervening US Independent Telephone Association. It has not been definitely decided whether the Commission staff will file in the case.

* * *

Revised lists of currently essential activities & critical occupations, issued respectively by Department of Commerce & Department of Labor, were announced jointly by Secretaries Sinclair Weeks and James P. Mitchell.

Lists are used by Defense Department in making determinations for requests for delay on part of reservists who have been called to active duty. Selective service boards also refer to lists in considering draft deferments.

Current list of essential activities includes production of electronics & communications equipment for military use. On list of critical occupations is "electronic technician," ocupational title embracing wide range of jobs in field of electronics and communications.

EXPANSIONS & IMPROVEMENTS: – Southwestern States Tel. Co. held an "open-house" at Wagoner, Okla. Exchange was cut to dial operation recently . . . Illinois Central Tel. Co. will convert its London Mills exchange to dial in October . . . W. W .Strawn, owner, Verona (Mo.) Tel .Co. completed dial cutover. $621,000 project was financed by REA loans.

W. T. Henning, pres. & gen. mgr. Cameron (La.) Tel. Co. announced completion of microwave system to serve Cameron-Hackberry-Carylss area. Project is part of $800,000 expansion project . . . Stockholders Sully (Ia.) Independent Tel. Co. ok'd company's dial conversion plans . . . Directors of the Phillips County Tel. Co. are considering dial system for Holyoke, Colc. Darly Kropp is mgr. . . . Illinois Central Tel. Co. will convert its Maroa, Ill. exchange to dial this summer . . . Millard County Tel. & Tel. Co. completed dial conversion at Scipio, Utah . . . Millington (Mich.) Tel. Co. announced $480,000 construction project.

* * *

NEW OWNERS: – Chesapeake & Potomac Tel Co., of Va. purchased Toano (Va.) Tel Exchange from Peninsula Tel. Corp. for $19,500 . . . Crow Wing Co-op Rural Tel. Co. purchased Rail Prairie Rosing Tel. Co., Rail Prairie Township, Minn. . . . Darwin Prouty purchased Yates City (Ill.) Tel. Co. from Joe Novak.

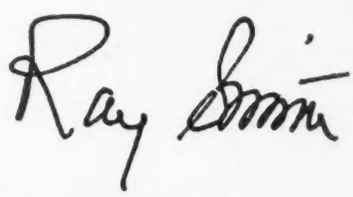
Mr. & Mrs. Arthur Sparks purchased Granada (Minn.) Tel. Exchange from estate of late Mrs. Mary Grout . . . Pacific Tel. & Tel. Co. concluded arrangements to purchase Lower Natches (Wash.) Tel. Co. . . . Paul Grauer, owner Wilson (Kans.) Tel. Co. purchased Lucas (Kans.) Tel. Co. & Cross Telephone Co., Sylvan Grove, Kans. . . . George Murphy, Gorham, Kans., purchased German-American Tel Co., Victoria, Kans. . . . Mr. & Mrs. Frank Peppmeier purchased Shannon City (Ia.) Tel. Exchange from Mrs. Ruth E. Long.

* * *

HIGHLIGHTS: – State charter issued to Milford (Kan.) Tel. Co. E. D. Gilman is residence agent . . . Hubert W. Froman, pres. of Edna (Kan.) Tel. Co., announced company has filed for REA loan. If loan is granted Edna exchange will be converted to dial.

Alger (Mich.) Associated Tel. Co. will sell 300 shares of common stock. Proceeds will be used to provide working capital for expansion & improvements . . . Stockholders of Hanska (Minn.) Rural Tel. Co. have voted to sell company . . . Polar Rural Tel. Mutual Aid Corp. will establish new headquarters' office at Grafton, N. D. John G .Walters is co-ordinator.

PEOPLE: – L. W. Barnthouse, formerly area mgr. Missouri Tel. Co., named dist. mgr., Macon, Mo. . . . Bernard Gassman, Canova, S. D., elected a director of McCook Tel. Co-op, Salem, S. D. He succeeds M. J. Duxbury, former chairman & director . . . Guy Van Wyk elected pres. Sully (Ia.) Independent Tel. Co. . . . John A. Riordan reelected pres. Morrison (Ill.) Tel. Co. . . . Alva Metzler reelected pres. Sherrard (Ill.) Farmers' Mutual Tel. Co.



Ray W. Smith, Editor

Here's how to...

give 'em better Service

increase your Revenue

Save a lot on Maintenance

It's no problem at all to "sell" the Stromberg-Carlson 6K System to business subscribers whose needs call for multi-line service. We even have a handsome booklet (T-126) you can show to, and leave with, your prospects.

And why should it be a *Stromberg-Carlson* system?

Because the 6K is the industry's easiest system to install and maintain. Factory assembly of telephone *with* terminal box, plus complete standardization of the system—mean much less outlay of your own money when you put a system in or come back later to expand or service it.

All of which is a PROFIT story. Ask your Stromberg-Carlson representative to help you work out a plan for aggressively going after this nice extra business.

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OP
Increased Transmitting and Receiving Efficiency
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Higher Ringer Impedance with Improved Performance
Varistor-Type Balancing Network
Shorter, Lighter Handset
Efficient Anti-Sidetone Circuit with Automatic Controls
More Uniform Dialing Performance on Longer Common Battery Lines
Protection from Loud Acoustic Peaks
Protected and More Reliable Switch
Available in 8 modern Two-Tone Colors

YOU CAN PUT YOUR FINGER ON THE THINGS THAT MAKE THE KELLOGG K-500 OUTSTANDING

Ten good reasons why the Kellogg K-500 Telephone is well worth your immediate attention. Not just vague generalities, but important, concrete advantages that automatically mean better service for your subscribers, and savings in maintenance and repair costs for you. Each advantage will be instantly apparent to you upon your very first demonstration—vast improvement in speech quality . . . uniform transmission, reception and sidetone . . . better transmission, dialing and ringing performance on much longer common battery lines. And then there's that wonderful plus-value of being able to offer your customers a choice of eight, two-tone decorator colors!

There's a detailed explanation of all these advantages in the interesting and informative K-500 Bulletin. A Free Copy is waiting for you now. Just drop us a note and we'll give your request immediate attention.

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A Division of International Telephone and Telegraph Corporation

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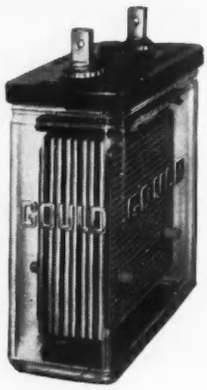
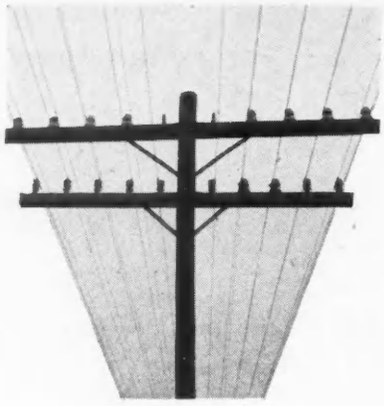
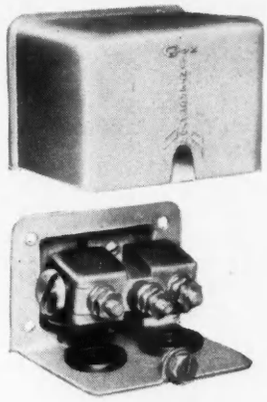


Outstanding Battery Performance is yours when you choose Gould Plante' Batteries. Thick, grooved, pure lead positive plates give many years of trouble-free service! Made by GOULD-NATIONAL BATTERIES, INC., the finest money can buy.

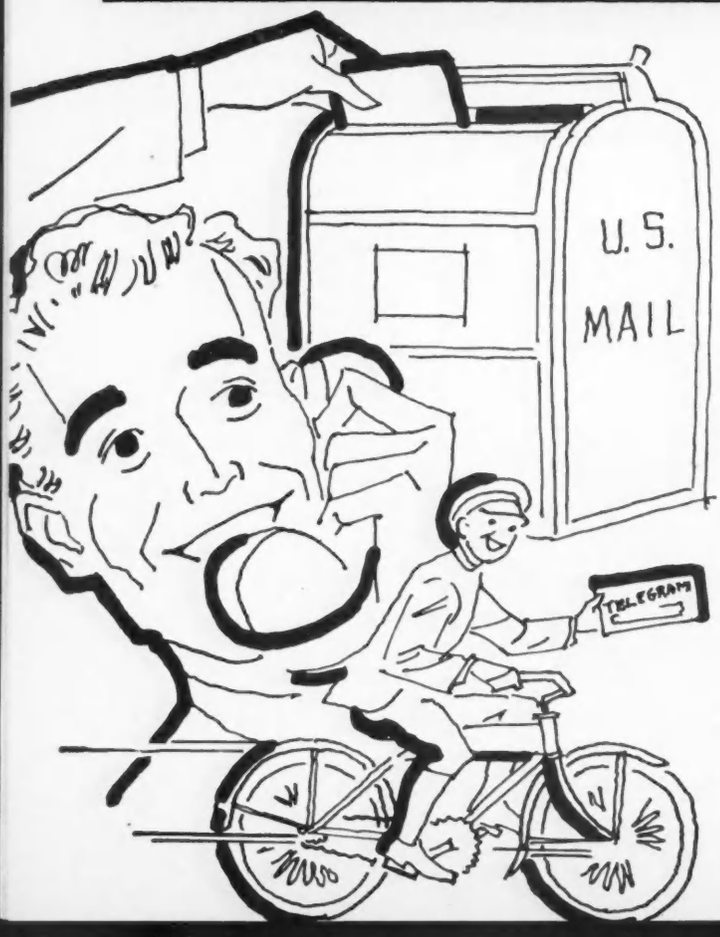


Finest Quality Crossarms available for immediate delivery from nearby warehouses. Pony or standard crossarms in fir and pine. Choose either treated or untreated Fir Crossarms, or the Penta-treated Pine. CONTINENTAL CROSS-ARM CO., INC.

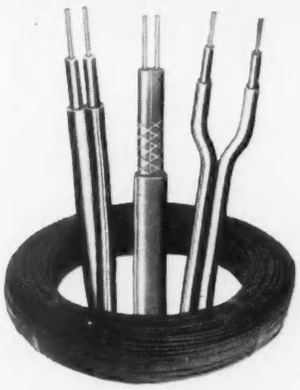


The New Cook Interceptor is a fuseless, carbon to carbon arrester which grounds power cross surges and lightning. Mini-Gap arresters are mounted in a moisture resistant and dirtproof receptacle. Made by COOK ELECTRIC COMPANY.

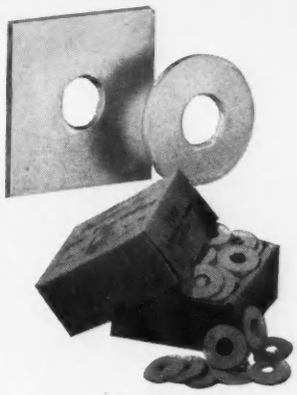
KELLOGG *for Line Supplies*



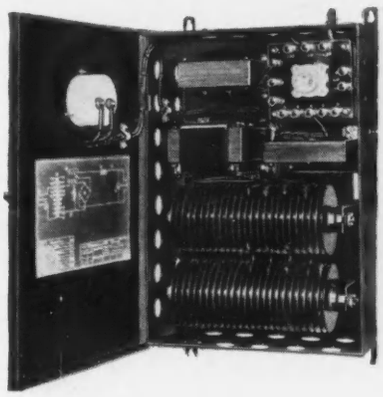
• Write, 'phone or wire all orders for Line Supplies to your nearest Kellogg Warehouse. Kellogg's stocks of guaranteed line supplies are complete--shipments are made immediately. Save time and money--send *one* order to *one* source--KELLOGG!



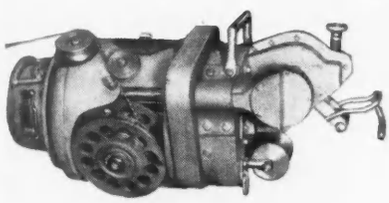
Long Service Life and Low Plant Costs go hand-in-hand with the installation of ENDURPRENE—The Neoprene Drop Wire available in both Copperweld and Bronze. Flexible and easy to handle. Made by GENERAL INSULATED WIRE WORKS, INC.



Complete Line of Hardware to meet all outside telephone plant requirements. Joslyn's convenient package of small hardware—like round washers shown above—promotes better "housekeeping" in the storeroom and on the line truck. JOSLYN.



Long Storage Battery Life is assured by using the RB Electrox Automatic Charger—it maintains charging rate in proportion to drain on batteries. Humless operation permits charging while telephone system is in use. Made by SCHAUER MFG. CORP.



For the Placement and Spinning of new cable — The Neale Model D Pull Type Spinner also used for maintenance spinning of existing cable. Offers instant adjustment to all sizes cable — from minimum to maximum diameter of 2¼". CABLE SPINNING EQUIPMENT COMPANY.

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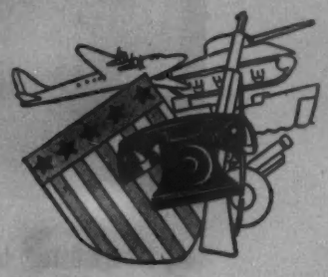

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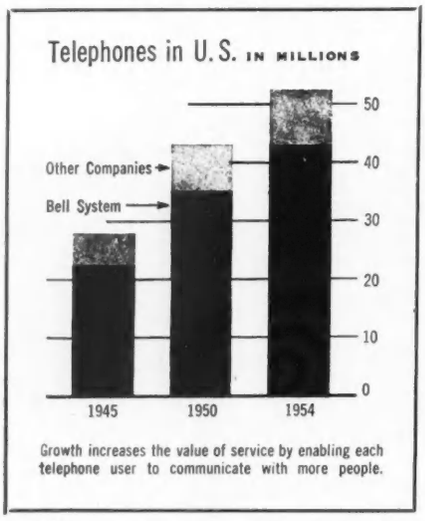
AT&T Reports 8.3% Revenue Increase: $1.4 Billion Spent on New Construction

MORE THAN IN any other postwar year, the Bell telephone companies in 1954 had new facilities to meet promptly the personal wants and preferences of telephone users, President Cleo F. Craig of American Telephone & Telegraph Co. said in the company's annual report.

Bell System earnings applicable to A. T. & T. stock were $11.92 a share on over 46 million average shares, compared with $11.71 on less than 41 million shares in 1953. Earnings on total capital of the System last year were at the rate of 6.2 per cent, compared with 6.1 per cent in 1953. During 1954, the proportion of debt in total capital was reduced from 41 to 37 per cent.

"With construction costs continuing at the high level reached in the last year or so," Mr. Craig commented, "the average investment per telephone is still rising. Where rate increases are needed the companies will continue to press for them."

The report and a sales insert which accompanies it both stress "complete" telephone service, which to residence customers for instance would include additional telephones in the home, individual rather than party-line service, and a second residence line for families which have outgrown their present service. The insert also pictures colored telephones, illuminated dials and spring cords, telephones for people with impaired hearing, the new "hands free" telephone and other modern telephone services.



Growth increases the value of service by enabling each telephone user to communicate with more people.

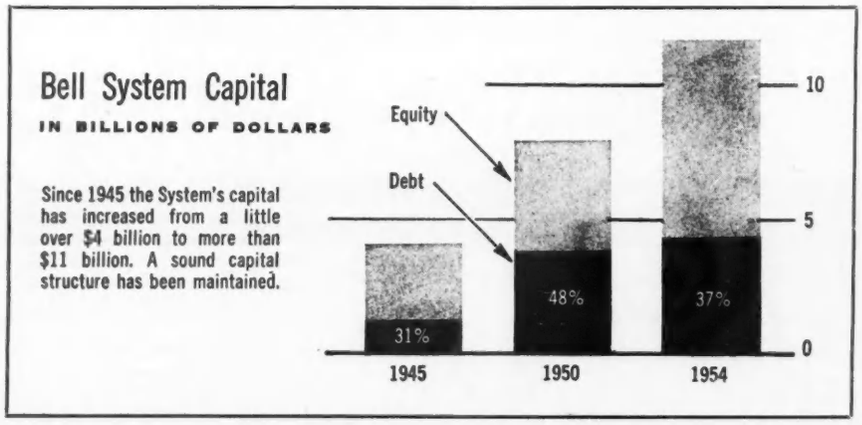
"Our progress depends on putting capital to work as efficiently as possible," Mr. Craig said. "We are always trying to develop new equipment that will improve service, encourage usage, make possible new services and keep down costs."

The System added 1,967,000 telephones during the year, bringing the total in service to 43,322,000. The Bell companies placed new local cables containing 13 million miles of wire — the largest amount ever added in one year. All told they spent $1.4 billion for new facilities.

"To carry this program forward in 1955 and provide the full service the nation needs and wants," Mr. Craig said, "large additional amounts of capital will be required."

Long distance conversations for the year increased 5 per cent, and at year end the volume had gone up to 10 per cent over the end of 1953. The average time for completing out-of-town calls dropped to 1.4 minutes, and 97 out of 100 calls were put through while the calling party stayed on the line. Operators dialed more than half the long distance calls they handled straight through to the distant telephone; the number of towns and cities connected to this long distance dial network in Bell and non-Bell companies grew from 2,450 to 3,350 during the year.

Telephone users themselves were dialing about a quarter of the short-



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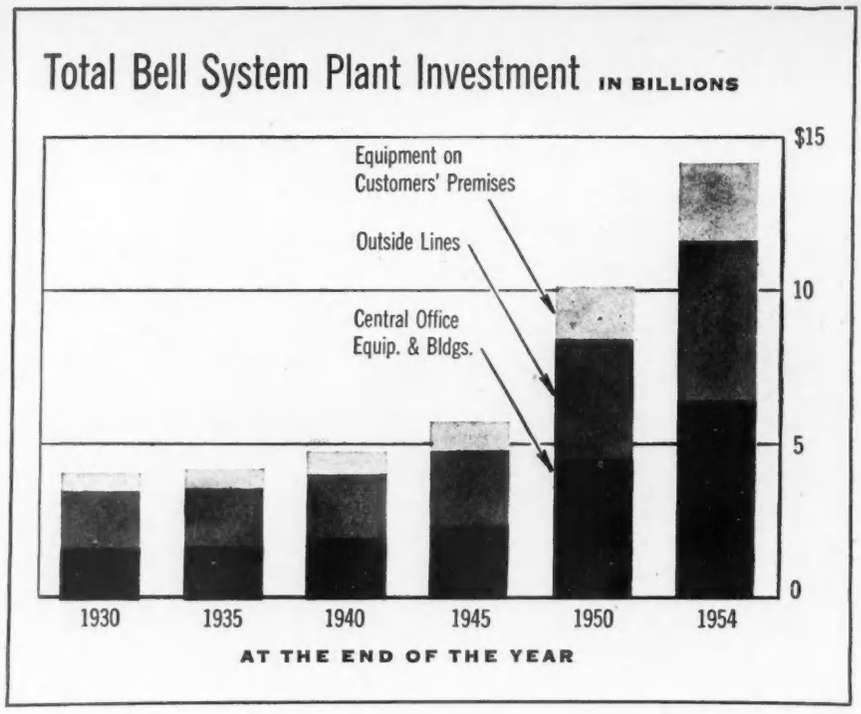
er calls beyond their immediate local area. People in 25 places were dialing direct many of their distant calls as well. In 22 of these places they were doing so in 1954 for the first time. These developments reflect steady progress toward the goal of direct distance dialing by customers all over the nation, Mr. Craig explained.

Overseas telephone messages reached a new high of 1,064,000, and work went ahead on undersea voice cables to Great Britain and Alaska which are expected to be in operation before the end of 1956.

The Bell System television network was extended to almost 100 additional stations since the beginning of the year, so that it now reaches 357 stations in 233 communities. The system has equipped its network routes to carry color programs to 232 stations in 129 cities.

"In 1955 we look forward to rendering ever better, more complete and more valuable service to community and nation," Mr. Craig concluded.



General of Ohio Announces $200,000 Building

NEW $200,000 multi-purpose building for the General Telephone Company of Ohio will be constructed at Marion, Ohio, this summer, Clare E. Williams, president, announced last month. The new building will be used to replace quarters rented at 198 North Prospect St., Marion, which company officials stated are inadequate for expanding operations in this area.

The building will encompass more than 16,000 square feet of floor space and will house the company's Central Division administrative and engineering offices. It will provide facilities for maintenance and testing of telephone equipment and apparatus, as well as storage space for materials and supplies.

Contracts Signed For Four Kansas Offices

SOUTHWEST CONSTRUCTION CO., Johnson, Kans., has been awarded the contract for construction of four central offices which will house new dial systems for Pioneer Telephone Association at Ulysses, Richfield, Rolla and Moscow, Kansas.

The Johnson firm got the jobs on a bid of $22,227.11, Manager Joe Chilen told members of Pioneer Telephone Association.

Chilen told association members the estimate on cost of the complete system is now $771,053. The original estimate was set at $886,428.

All officers of the association have been reelected. Earl B. Williams is president. H. G. Webber is vice-president and R. B. Bechtelheimer, secretary.

Others elected to the board of directors: Howard Drew, W. S. Duckworth, Archie Cooper, J. Floyd Breeding, Howard Phifer and Ralph Tuttle.

Union Tel. Plans Two Dial Conversions

THE UNION TELEPHONE CO., Owosso, Mich., has announced plans to install dial systems at its Merrill and Hemlock exchanges this year.

Sites have been purchased in both villages for buildings to house the necessary special equipment and actual construction is scheduled for this spring. According to James Waters, district manager, the two exchanges will probably be switched to dial systems during the summer.

Cutover Completed At Gotebo, Okla.

NEW STATE TELEPHONE CO. subscribers at Gotebo, Okla., were "cut over" to dial service Feb. 15, Manager H. R. Peterson, announced. Gotebo is the fourth community in the Roosevelt section included in the company's conversion to the improved service.

The conversion to dial service marked the fourth step in the improvement program, which has involved expenditure of over $500,000 in Roosevelt, Cooperton, Headrick and Gotebo, Peterson said.

Manitoba Company Seeks Rate Boost

THE MANITOBA Telephone Commission, Winnipeg, Manitoba, which since before end of the war hasn't been able to install telephones fast enough to keep up with applications for service, is requesting an increase in rates.

There has been no increase since 1921. Provincial local and rural rates which were authorized then were reduced during the 1930 depression and have never been brought up to the figures authorized in the 1921 increase.

The Commission has submitted a schedule of higher rates to the Government which will likely approve it as presented, or in any event with only slight changes. The application for increase will be made to the Municipal and Public Utility Board.

For the first time in 22 years, the fast-expanding system reported an operating loss for the year which ended March 21, 1954. Its report said it went behind $302,654. For

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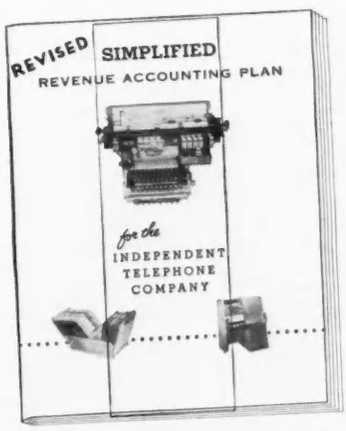
Get more details on these profit-boosters ...and many others... in the newly revised *SIMPLIFIED REVENUE ACCOUNTING PLAN!*



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J. I. Kennedy, Freeport, Ill., Retires: Succeeded By B. R. Anderson

J. I. KENNEDY, president and general manager of the Northwestern Telephone Co., Freeport, Ill., has announced his retirement, effective March 1, after 55½ years in the telephone field.

He will be succeeded by B .R. Anderson, now the assistant general manager.

On Sept. 1, 1899, John Iles Kennedy, a native of Lena, began work for the Freeport Telephone Exchange Co. An older brother had been called in for a job as a night operator and collector. The brother was sick and 14-year-old Jack seized the opportunity and a telephone career began.

He was in the construction department of the Nebraska Telephone Co. when he married Miss Evelyn Earl of Corning, Iowa, on March 13, 1906.

Mr. Kennedy left his first job to acquire more telephone experience, as a trouble shooter with Central Union Telephone Co., Belvidere, and the Chicago Telephone Co., and with the Bell System manufacturing affiliate, Western Electric Co.

He transferred to the Nebraska Bell Co., as assistant wire chief at Grand Island, Neb., in 1906, and was made wire chief at McCook, Neb., in 1908. In 1914 he moved to the company's cable facilities department at Omaha and in 1915 to the plant appraisal section of the engineering department at Omaha.

He resigned his position Oct. 1, 1916, to return to Freeport as wire chief. One year later he was made plant superintendent.

In July 1934 he was promoted to assistant general manager. Four months later he was elected president and general manager, a position he held for over 20 years. He will continue on the board of directors after he retires as president.

The Freeport Telephone Exchange Co. was 19 years old when Mr. Kennedy joined it. In 1902 a competing Stephenson County Telephone Co. was organized and in 1910 absorbed the earlier company. In 1931 it became the Northwestern Telephone Co., which thus has been locally owned from the beginning.

Mr. Kennedy has had photostated as historical documents the original 1881 contract with the National Bell Telephone Co., giving the Freeport company the benefit of the five-year-old patents of Alexander Graham Bell. Later agreements approved extension of the local service.

J. I. KENNEDY

Mr. Kennedy has been a director of Freeport Rotary Club and of the Chamber of Commerce. He is a 32nd degree Mason and Knight Templar. He belongs to Freeport Country Club.

He has served as a director and past president of the Illinois Telephone Association and as president of the Independent Telephone Pioneer Association.

His future plans include more travel for Mrs. Kennedy and himself, beginning May 1 with a three-month trip to the West and Northwest.

"The fellow who talks about what a fool he used to be, certainly is an optimist!"

(Continued From Page 18)

this year the operating loss will be considerably more.

An interim report covering the eight-month period from April 1st, 1954 to Nov. 30th, stated total operating losses had risen to $672,581, and by the end of the current fiscal year on March 31st will have likely reached about $800,000.

Since 1932 the company has always reported an operating surplus. In the postwar period heavy capital borrowings were made for expansion and even yet there are 4,590 applications for which service has not been provided. This is the lowest of the past seven years. Since the war there have been several wage increases, costs of materials are higher, borrowed money for expansion has increased interest charges, and heavier write-offs required for depreciation. Only by high rates can accounts be balanced, the commission states.

In January the system installed its 200,000th telephone in residence of a Brandon subscriber.

The 1921 schedule authorized rates of $3.65 per month for telephones in residences in Winnipeg and rates from $6.50 to $7.15 per month for Winnipeg business services.

For rural lines the rates fixed were from $4.30 to $4.80 for business purposes and $3.80 to $4.30 for residences on farms.

Denies Rehearing on Illinois Bell Rates

TWO PETITIONS for rehearing the $24,900,000 Illinois Bell Telephone Co. rate hike case have been denied by the Illinois Commerce Commission.

Appeal from the ruling is certain by the City of Chicago, and "probably" by the Greater Chicago Hotel Association. They had applied for rehearing even though the commission denied any rate increase to the telephone company. Their attorneys contend present rates need adjustments to remove discrimination against Chicago subscribers in favor of downstate users.

The telephone company has appealed the commission's order in Kane County (Ill.) Circuit Court. It contends the commission failed to give credit to capital improvements and increases in operating costs since

Please Turn To Page 22

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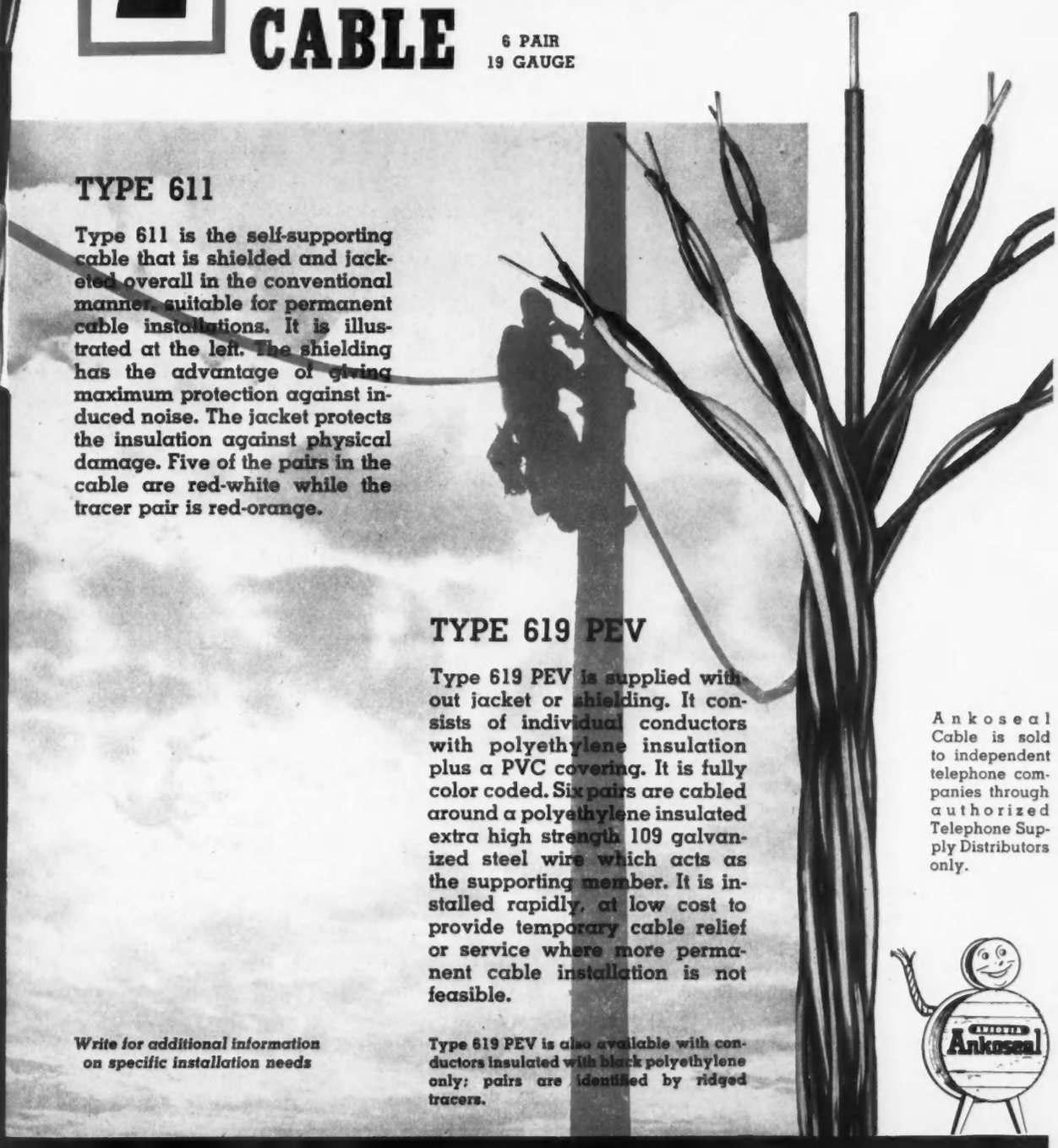
TYPE 611

Type 611 is the self-supporting cable that is shielded and jacketed overall in the conventional manner, suitable for permanent cable installations. It is illustrated at the left. The shielding has the advantage of giving maximum protection against induced noise. The jacket protects the insulation against physical damage. Five of the pairs in the cable are red-white while the tracer pair is red-orange.



TYPE 619 PEV

Type 619 PEV is supplied without jacket or shielding. It consists of individual conductors with polyethylene insulation plus a PVC covering. It is fully color coded. Six pairs are cabled around a polyethylene insulated extra high strength 109 galvanized steel wire which acts as the supporting member. It is installed rapidly, at low cost to provide temporary cable relief or service where more permanent cable installation is not feasible.

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(Continued From Page 20)

its preceding rate increase and thereby denied to the company a fair rate of return.

W. G. Matson Forms New Corporation

W. G. MATSON, manager of the Stanley, N. D., Telephone Exchange, has started action to form a corporation to be known as the Grenora Telephone Exchange. The corporation will provide telephone service to the city of Grenora, N. D. and its trade area. Mr. Matson has operated the Grenora Telephone Exchange since April 1948. During this time the number of telephones in the city has more than doubled.

H. J. Clarke Advanced By Canadian National

THE APPOINTMENT of H. J. Clarke to be general superintendent of Canadian National Telegraphs' western region, with headquarters at Winnipeg, was announced at Toronto last month by J. R. White, general manager.

In 1934, Mr. Clarke joined the Newfoundland Department of Posts & Telegraphs as an inspector in the telegraph division. He enlisted with the Royal Canadian Corps of Signals in 1942 and was demobilized in 1945 with the rank of captain.

On return to civilian life, he became assistant secretary in the Newfoundland Department until Confederation in 1949. In April of that year, Canadian National Telegraphs took over the telegraphs division of the Department, and Mr. Clarke was named superintendent for the C.N.T. in Canada's tenth province.

LaBrum Promoted To Signal Corps Reserve Brig. Gen.

J. HARRY LABRUM, prominent Philadelphia attorney, has been promoted to the rank of Brigadier General in the Signal Corps Reserve. At a ceremony held on February 9th in the Pentagon, Washington, D.C., Major General George I. Back, Chief Signal Officer of the Army, congratulated General LaBrum on his promotion and officiated in pinning on his newly-won stars.

General LaBrum who is managing partner of the law firm of Conlen, LaBrum & Beechwood in Philadelphia, served with the Signal Corps from June 1942 to November 1944 as the Legal Officer at the Signal Corps Procurement District headquarters in Philadelphia. He was transferred to North Africa in December 1944 and served as Officer-in-Charge of the Control Division, Signal Section, Headquarters, Mediterranean Theater of Operations, under General Back who was then Chief Signal Officer of the Theater. General LaBrum was returned to the United States in June 1945.

BRIGADIER GENERAL: — U. S. Army photo of promotion of J. Harry La Brum to Brigadier General, USA Reserve. L. to R.: —Major General GEORGE I. BACK, Chief Signal Officer of the Army; Brigadier General J. HARRY LA BRUM; and La Brum's granddaughter, MISS TRINA TAYLOR.

Following his release from active duty with the Army, General LaBrum reassumed the practice of law in Philadelphia and again began to take a prominent part in civic affairs. An active worker in numerous organizations, General LaBrum is past president of the Greater Philadelphia Chamber of Commerce and is presently Chairman of the Board of Directors. He is a member of the Board of Directors of International House, in Philadelphia, and serves as its general counsel.

Also, he is Honorary Chairman of the Greater Philadelphia-South Jersey-Delaware Council, Chairman of the South Philadelphia Veterans Employment Committee, and a member of the Philadelphia Board of Education. He is a member of the American Legion, Veterans of Foreign Wars, the Military Order of World Wars, the Old Guard of the City of Philadelphia, and the Pennsylvania and American Bar Associations.

General LaBrum is a charter member of the Armed Forces Communications and Electronics Association and is presently one of its directors.

He is a member of the Advisory Committee of the Philadelphia Civil Defense Council and was Chairman of the Armed Forces Day celebration in Philadelphia for 1952 and 1953.

He is a member of the Society of American Military Engineers, the Civilian Navy Advisory Council, and the Reserve Officers Association.

General LaBrum is a graduate of Georgetown University, Washington, D.C., and did postgraduate work at Cambridge University in England. He is also a graduate of the Industrial College of the Armed Forces.

He holds the Legion of Merit and the Army Commendation Ribbon.

Sanford Cousins Named to New York Tel. Board

SANFORD B. COUSINS, vice president of public relations for the American Telephone & Telegraph Co., was appointed a director of the New York Telephone Co. at a recent meeting of its board of directors. The appoint-

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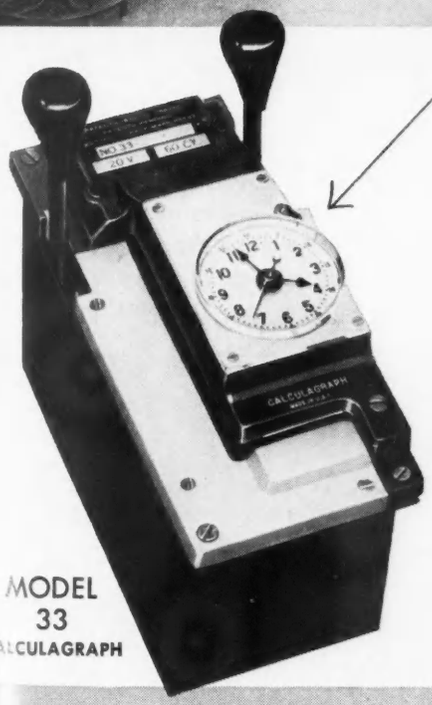

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ment is subject to approval by the Federal Communications Commission.

Mr. Cousins, who until February 1 of this year had been president of Northwestern Bell Telephone Co., Omaha, Neb., began his telephone career as a traffic student in the Long Lines Department of the A. T. & T. in New York in 1920. He joined the New York Telephone Co. the following year as a traffic inspector. After various assignments in the traffic department, mostly in upstate New York, he was appointed division traffic superintendent at Syracuse in 1929.

Later he served as general traffic supervisor at the company's Albany headquarters, division traffic superintendent at Buffalo, and in the same capacity in western Manhattan before becoming general traffic manager in Manhattan in 1940.

Early in 1944 Mr. Cousins accepted a position with A .T. & T. as assistant vice president, personnel department. Four years later he went to the New England Telephone & Telegraph Co. as vice president and general manager. In 1950 he returned to New York as vice president and general manager of the Bell Telephone Laboratories. He went to Northwestern Bell Co. as its president in September 1952, and entered his present duties with the A. T. & T. on February 1 of this year.

A native of Gray, Maine, Mr. Cousins is a graduate of Bowdoin College. He has been an overseer of the institution since 1950 and was formerly president of its alumni association. He is also a member of Theta Delta Chi fraternity and of the University Club.

R. C. Folger Retires from Western Union

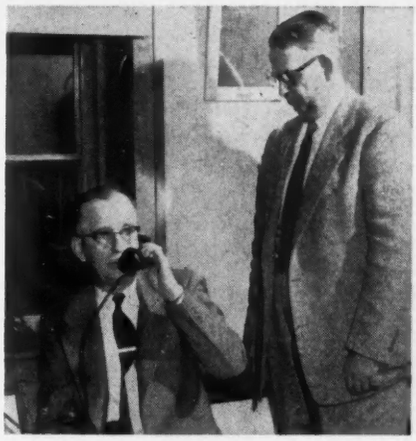
R. CARLISLE FOLGER, 764 Scotland Road, South Orange, N. J., general manager of the 12-state Eastern Division of Western Union Telegraph Co., retired March 1, after 45 years of distinguished service with the telegraph company .

As assistant to the vice president, assistant vice president, general manager of the 9-state Southern Division and general manager of the Eastern Division, Mr. Folger has had an important part in supervising the telegraph service of the nation.

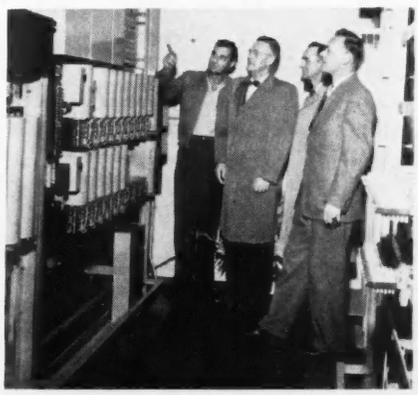
A native of Central, S. C., Mr. Folger received his AB degree from Wofford College and did post-graduate work in business administration and economics there and at Vanderbilt University. He is a member of the Phi Beta Kappa Society.

He was chief clerk of Western Union at Richmond and district manager at Philadelphia before serving in World War I. In 1920 he joined the staff of the Eastern Division general manager and became a district superintendent four years later. In 1933 he became an assistant to the vice president, becoming assistant vice president in 1943.

In 1944 he was appointed general manager of the Eastern Division, extending from Maine to Virginia. He served in that capacity for eleven years, and served also in 1949 as general manager of the 9-state Southern Division with headquarters in Atlanta.



FIRST CALL: — The HONORABLE LAWRENCE SOUDERS, Mayor of New Bremen, Ohio, places the first call over the new automatic system to R. N. Cole, president of Ohio Consolidated Tel Co. C. A. CRANE, St. Marys district manager (in charge of New Bremen exchange operations), is pictured with the mayor. Mayor Souders expressed pleasure with the new service and complimented the company in its forward movement of providing this improved type service.



OHIO CUTOVER: — Ohio Consolidated Tel. Co.'s Williamsport exchange was cut over to automatic operation on Jan. 12. Employes shown above are (l. to r.): WILLIAM E. STEWART, ROSS SKAGGS (plant supervisor), WALLACE CAMPBELL, and LEE THRASHER (Portsmouth general office).

Woman, 96, Re-elected Telephone Company Head

NINETY-SIX-YEAR-OLD Mrs. Esther Young, Columbia, Pa., was re-elected to her 44th term as president of the Columbia Telephone Co. at the annual meeting of stockholders last month.

Mrs. Young, who lives at 942 Chestnut St., Columbia, is the widow of Henry Young, founder of the company, and has served as president since her husband's death 43 years ago.

Mrs. Young attended the recent meeting and has an active interest in the company's affairs.

H. Nelson Albright, was elected a director, increasing the number on the board to eight. Stockholders also declared a quarterly dividend of 50 cents a share on all stock of record up to Jan. 19.

Other officers re-elected were: John F. Hinkle, vice president; Charles E. Taylor, secretary-treasurer; and Henry Y. Smith, general manager.

General Tel. Revenues Reach New High In '54

GENERAL TELEPHONE SYSTEM'S consolidated earnings per share on the shares outstanding at the end of the year for 1954 were equal to $2.76, as compared with the 1953 figure of $2.65 per share after giving effect to a 50% stock dividend paid on May 15, 1954. On the average shares outstanding the earnings per share for 1954 and 1953 were $2.86 and $3.02 respectively.

In making the year end figures available, General Telephone's President, Donald C. Power, pointed out that total operating revenues reached a new high for 1954 and totaled $174-million, of which $142-million were from telephone operations and $32-million were from manufacturing, supply and directory operations, as against $149-million for 1953. Net income was $16,170,000, an increase of more than $2-million over 1953 results.

Mr. Power added that General

(Continued From Page 24)

Telephone System had budgeted a record $78-million for expansion in 1955. Continued emphasis on conversion to dial operation, now 75% of General's total telephones, plus new buildings and additions to plant facilities and equipment, are the major items.

"General Telephone System will have a total plant investment of more than $500-million by the second quarter of 1955," Mr. Power continued. "This is an increase of $230-million in less than five years."

Total telephones in service for General Telephone System companies totaled 1,804,013, as of December 31, 1954, a gain of 123,569 for 1954.

Ohio Bell Reports Drop In Net Income

THE OHIO BELL Telephone Co., with telephones now installed in 84 per cent of the households in its territory, has entered a new period of selling additional services and devices, the company's annual report revealed last month.

In a 28-page report reflecting continued growth, increased revenues and expenses and a slight drop in net income, the company told how the revival of selling was begun last year and stepped up still further during the early weeks of 1955.

"Now that the task of providing basic service to the great majority of families and business concerns has been accomplished, the company is in a better position to offer complete service to its customers and promote greater use of all its services," President John A. Greene said in the report. "It also is better able to furnish many specialized services and devices which will afford greater value and convenience to telephone users."

The new selling program thus far has been concentrated on the installation of extension telephones and greater long distance usage. It is being expanded to include such devices as the automatic telephone answering and recording set, a hands-free telephone and an illuminated dial set.

"During the nine post-war years the Company has been carrying on a dual program of meeting the tremendous public demand, and at the same time improving the service as new equipment and methods became available," Greene said. "In this period it has added practically a million telephones, has offered a better quality of service and has constructed more than $400 million of telephone plant in order to do so. This construction continues at a rate of more than a million dollars a week."

Total operating revenues for 1954 were up 3 per cent over 1953, but operating expenses and taxes were up 4 per cent, with the result that the year's net income of $24,662,000 was $278,000 less than it was the year before, despite a $32 million net increase in buildings, lines and equipment added during the year.

The 1954 net gain in the number of Ohio Bell telephones in service exceeded 77,000, and more than 30,000 of these were extension telephones. Equally significant, the report said, is the fact that 105,000 customers asked for and received higher grades of service, such as changes from two-party to individual lines. Since World War II, some 500,000 party-line users have been furnished higher grades of service.

Coming Conventions

Texas Telephone Association, Plaza Hotel, San Antonio, March 14 and 15.

Nebraska Telephone Association, Cornhusker Hotel, Lincoln, March 22 and 23.

Ohio Independent Telephone Association, Deshler Hilton Hotel, Columbus, March 28, 29 and 30.

United States Independent Telephone Association Executives Conference, Belleview-Biltmore Hotel, Belleair, Fla., April 4 and 5.

Iowa Independent Telephone Association, Fort Des Moines Hotel, Des Moines, April 12 and 13.

North Dakota Telephone Association, Fargo, April 25 and 26.

Wisconsin State Telepho Association, Loraine Hotel, Madison, May 4 and 5.

Indiana Telephone Association, Claypool Hotel, Indianapolis, May 11 and 12.

The Illinois Telephone Association, Pere Marquette Hotel, Peoria, May 19 and 20.

Kansas-Missouri Telephone Association, (Joint Convention), Town House Hotel, Kansas City, Kans., May 23-24.

Pennsylvania Independent Telephone Association, Pocono Manor Inn, Pocono Manor, June 1 and 2.

California Independent Telephone Association, Ambassador Hotel, Los Angeles, June 9 and 10.

New York State Telephone Association, Scaroon Manor Hotel, Schroon Lake, June 13, 14 and 15.

Oregon-Washington Independent Telephone Association (joint convention). Olympic Hotel, Seattle, Wash., June 17 and 18.

Michigan Independent Telephone Association, Pantlind Hotel, Grand Rapids, September, 8 and 9.

Rocky Mountain Telephone Association, Utah Hotel, Salt Lake City, Utah, September 15 and 16.

Arkansas Telephone Association, Arlington Hotel, Hot Springs, September 26 and 27.

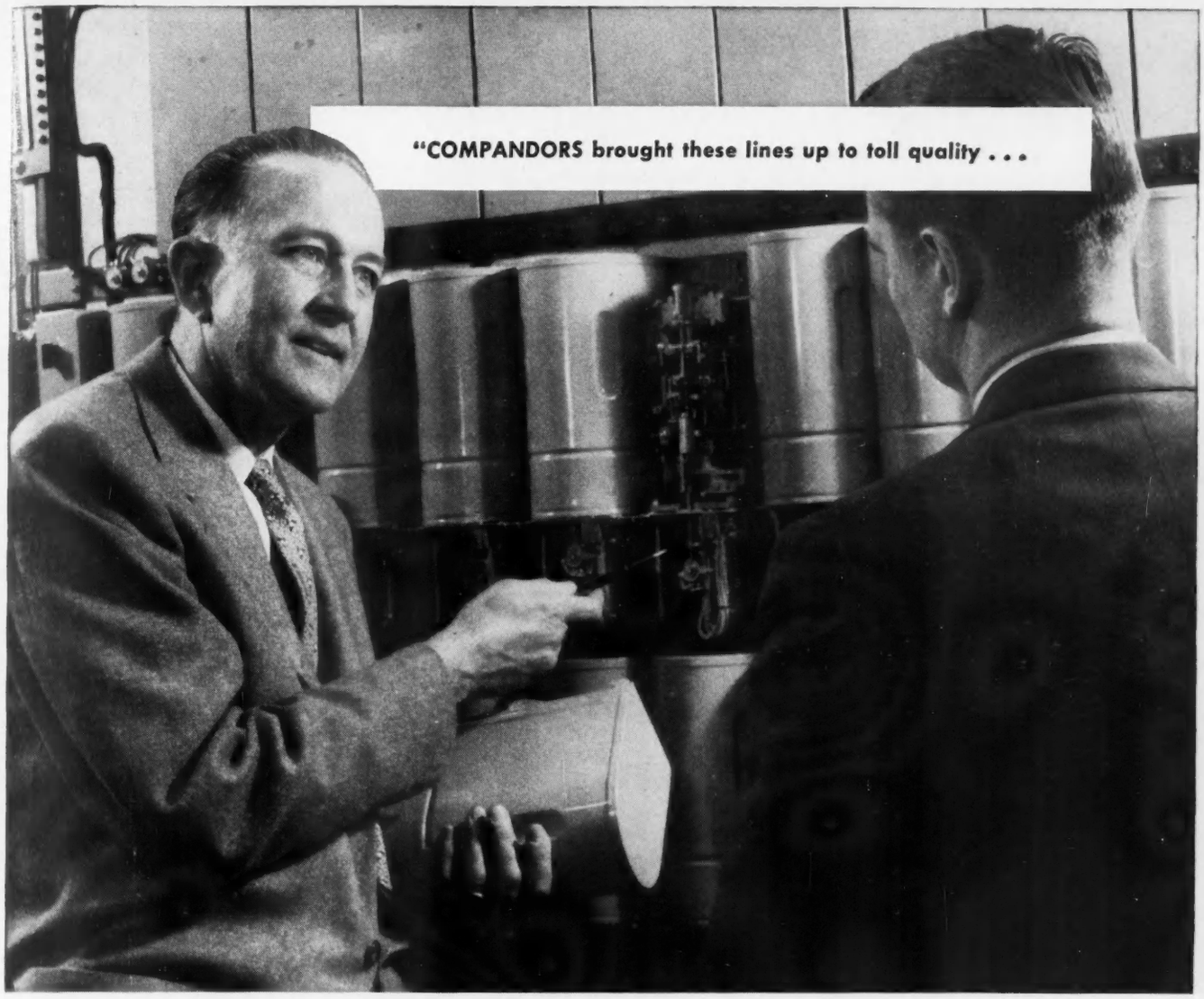
United States Independent Telephone Association, National Convention, Conrad Hilton Hotel, Chicago, October 10, 11 and 12.

North Carolina Independent Telephone Association, Carolina Hotel, Pinehurst, October 17 and 18.

Alabama-Mississippi Telephone Associations, Thomas Jefferson Hotel, Birmingham, Ala., November 14 and 15.

General of Northwest Reviews 1954 Progress

GENERAL TELEPHONE CO. of the Northwest last year spent nearly 2½ million dollars on improving and ex-



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Flexibility — Built-in strapping terminals permit operation at —16 and +7DBM, —13 and +4DBM or —4 and +4DBM. No internal adjustment needed.

Miniature size — Mounts on standard rack. Total depth, 10 inches. 4-unit shelf occupies 3½ inches vertical space. Plug-in assembly.

Versatility — Can be used with any carrier system or radio channel. Adaptable to filament voltages of 6.3, 12.6, 24 and 48 volts.

If you have a problem with circuits below commercial standard because of noise or crosstalk — chances are that Compandors can solve it. On carrier or radio channels, Compandors will improve signal-to-noise ratio as much as 22 db — *without* retransposing, and at a *fraction* of retransposition costs!

NOISE from power line induction or random pickup can be reduced to a negligible factor. Moreover, in making noisy, marginal circuits commercially usable, much of the costly maintenance now required is eliminated.

CROSSTALK between carrier telephone systems on lines transposed for lower frequencies can be substantially reduced; Compandors thus open up new possibilities for additional carrier circuits on present lines — without the necessity for retransposing! For example, you can use more than three carrier systems like Lenkurt Type 33A on lines transposed for voice frequencies; and three or more systems like Lenkurt Type 45A on lines transposed for low-frequency carrier systems.

Users have found that Compandors can be put to work for a surprisingly low cost. We think you'll agree that this saving is worth investigating. Ask for further details in Bulletin TM 5090-B. Write to Automatic Electric Sales Corporation, 1033 W. Van Buren St., Chicago 7, Ill. In Canada, Automatic Electric Sales (Canada) Ltd., Toronto. *Offices in principal cities.*

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(Concluded From Page 26)

panding telephone facilities in its three-state operating area, company president W. R. Jarmon declared last month in reviewing his company's progress during the year 1954.

Biggest project completed by the company during 1954 was the conversion of its Wenatchee exchange to dial operation and the inauguration in Wenatchee and eight surrounding towns of General of the Northwest's 3rd Customer Toll Dialing network. The cost of these improvements and additions for the Wenatchee area totaled $1,422,000, of which $465,000 alone was expended on the new Wenatchee office building.

The second-largest project from a cost standpoint was the conversion of St. Maries, Idaho to dial operation and the linking of St. Maries and nearby Harrison with the Coeur d'Alene Customer Toll Dialing Network, which now provides self-dialing facilities for station long-distance calls between ten communities in Idaho plus one-way dialing to Spokane.

Touching upon other highlights of General's 1954 construction program, Jarmon listed dial conversions at Valley, Medical Lake, Rosalia and Chewelah, completed at a total cost of roughly $550,000, including new office buildings at all four exchanges. Extensive rehabilitation and new construction were also undertaken in many rural areas and a number of new intercity toll circuits were added to present lines to provide improved long-distance facilities.

Jarmon stated that General of the Northwest now serves more than 56,000 telephones in central and eastern Washington, northern Idaho and northwestern Montana over a composite area equal in size to the combined states of Massachusetts, Connecticut, Rhode Island and New Jersey. Some 3,300 new telephones were added during 1954, the largest annual increase in the number of telephones served since 1949.

Jarmon disclosed that plans for 1955 include the conversion of the company's Kennewick exchange with 4,500 telephones to dial operation, as well as the conversion to dial service of the company's remaining magneto exchanges located at Deary, Idaho and Reardan, Farmington, Hunters and Kettle Falls, Washington involving nearly 900 telephones.

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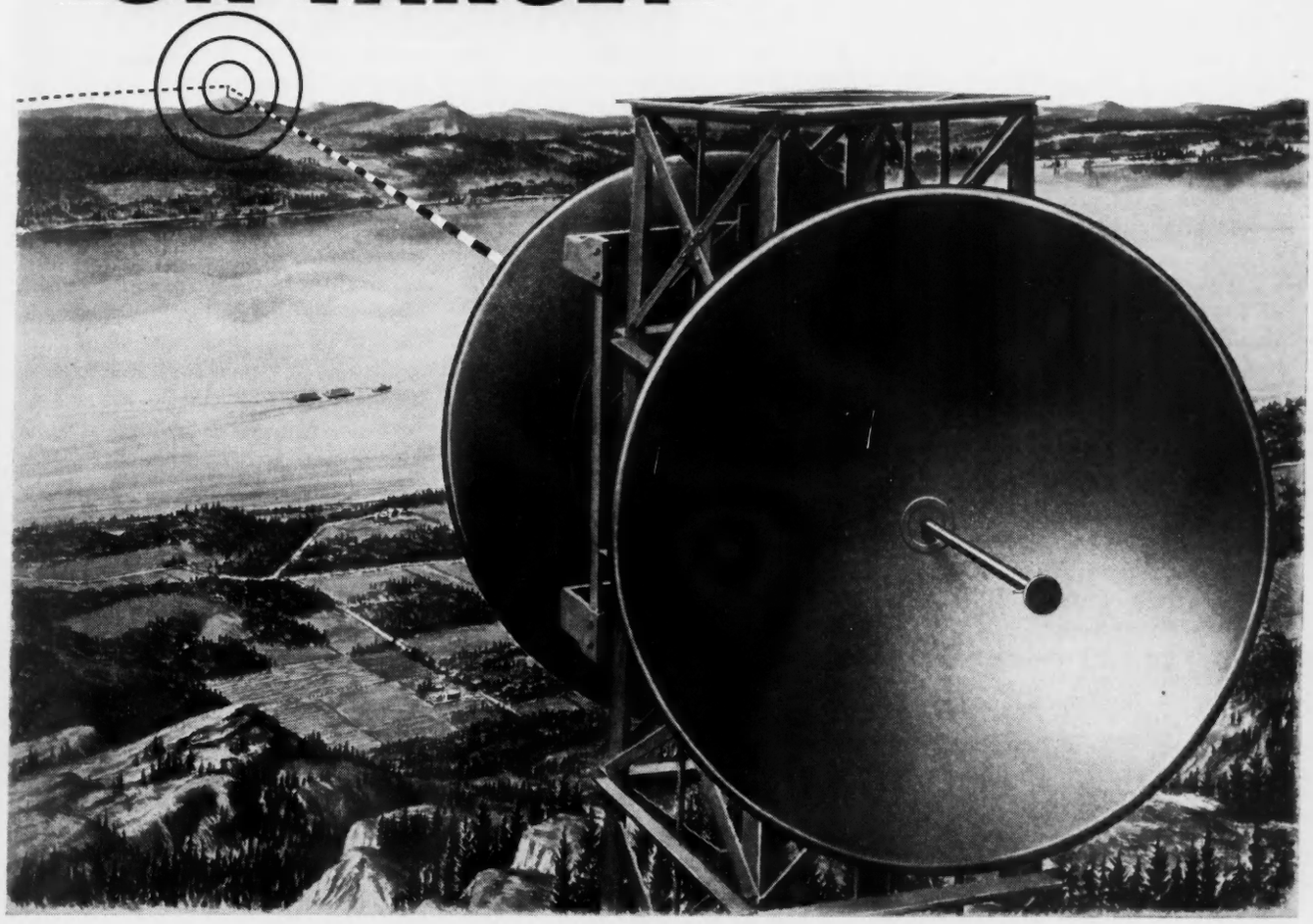

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Microwave was successfully demonstrated for the first time in 1931 by International Telephone and Telegraph Corporation. Today this system, developed and improved through the years, is made available outside the United States through ISE, associate of IT&T. Would you like the facts on what microwave can mean to *your* communications? ISE engineers will be happy to consult with you.

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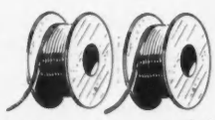

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Washington Bureau Reports

By The Editors of "Telecommunications Reports."

CONFLICTING reports about proposals of a Hoover Commission (on federal government reorganization) task force on government lending agencies relative to the Rural Electrification Administration apparently will be settled only when the commission's report is sent to Congress, it appears. Transmission of the report to Capitol Hill was expected promptly as this column was written.

According to the National Rural Cooperative Association, in a resolution passed at its annual convention at Atlantic City a week ago, and the National Farmer's Union, a commission task force proposes to "torpedo" the REA telephone and electric programs by abolishing the agency and setting up a new, privately-financed Rural Electric Corp., which would charge interest rates variously estimated at 4½% to 6%. The REA interest rate is 2%.

A responsible Hoover Commission source, however, said flatly that the reports, first published by columnist Drew Pearson shortly after NRECA apparently obtained a copy of a task force report draft, are erroneous.

The Farmers Union and NRECA said that the task force has proposed that the new REC would obtain private capital and charge interest rates high enough to attract the private financing, plus administrative costs of the new organization. They stated that the reported new organization, supposedly to be headed by directors appointed by the President, would not be subject to close review and scrutiny by Congress.

Rates to be charged by the electric and telephone borrowers, under the task force report, would be high enough not only to cover maintenance and interest on the borrowers' capital, but also reserves for expansion and amortization of the debt capital, the Farmers Union declared. The NRECA resolution, passed at the convention, charged that the plan "would be utterly disastrous to the rural electric systems."

It was pointed out by a government official, in commenting on the reports, that there has been no indication that the Eisenhower administration has changed its policy on REA interest rates. He recalled that there were reports in the past of a boost in the 2% REA interest charge, and that responsible spokesmen had pointed out there was nothing to them. He also described the Farmers Union report that the remaining REA loans would be "second mortgages" under the purported task force plan as contrary to any known administration policy.

Indications were that, even should the Hoover Commission make recommendations along the line described, their chances of ultimate adoption would be less than slim. Congressmen of both political parties, particularly those from farming areas, have for years vied to be the leading supporters of the REA programs, and Administrator Ancher Nelsen has explained on several occasions, in response to Congressional criticism, that REA is lending money as fast as practical limits of trained personnel and feasibility of loan applications will permit.

McConnaughey Hearing

THE CONGRESSIONAL hearing on the confirmation of George C. McConnaughey as a member of the Federal Communications Commission — Mr. McConnaughey is serving as FCC Chairman under a recess appointment — again has produced wonderment among some Washington observers that qualified men are willing to undergo some of the treatment they receive in order to take over jobs which pay them less than they would get in private life.

Mr. McConnaughey's service for a few years, while he was an attorney in private practice, as one of the counsel to the Ohio Bell and Cincinnati & Suburban Bell Telephone Cos. produced criticism from at least one nationally-syndicated newspaper columnist, and a few Democratic Senators, even though it was plain that he had simply represented his clients as any attorney would do.

Even though it appeared that the campaign against Mr. McConnaughey was a failure in terms of blocking his confirmation — no action had been taken by the Senate Interstate & Foreign Commerce Committee as this was written, but approval appeared probable — it once more demonstrates how doubt can be cast on the ability of a public servant to do his job without substantial foundation of fact.

Harry R. Booth, who served on the FCC staff for a few months prior to the war and is now a self-styled utility expert who intervenes in Chicago rate cases as spokesman for the so-called Utility Users' League — described by Mr. Booth himself as a "handful of people" — evidently was the source of material used in the newspaper stories and also by Senator Estes Kefauver (D., Tenn.) in questioning the FCC Chairman.

Things reached an extreme when both the columnist, Drew Pearson, and Senator Kefauver declared flatly that Mr. McConnaughey was instrumental in the passage of the Ohio law requiring the Public Utilities Commission to use reproduction cost as the sole legal rate base. Chairman McConnaughey pointed out that the law was passed in 1913, when he was a high school student.

All of the vocal critics took the tack that Mr. McConnaughey, as an "advocate" of the reproduction cost rate base while serving as counsel for the telephone companies, might well be instrumental in shifting the FCC's rate base approach to reproduction cost.

In answer, Mr. McConnaughey

stressed that he doesn't believe that the type of rate base employed is nearly as important as adequate and good regulation in the interest of the public (which includes the health of the telephone company as well as good service at adequate rates); his representation of clients while in the private practice of law has nothing to do with his service on the FCC; and that under the law, no one could advocate anything but a reproduction cost base in Ohio.

The nominee was hit hard for a time by Senators John O. Pastore (D., R. I.) and A. S. Mike Monroney (D., Okla.), but both appeared to conclude that his answers were satisfactory. Senator Kefauver, however, clashed with Mr. McConnaughey throughout his series of questions.

Arriving near the close of the hearing, and bringing up little but matters which already had been exhaustively discussed, Senator Kefauver asked questions and made statements which bore striking resemblance, down to minor details, to the testimony of Mr. Booth and to the Pearson column. There was considerable allegation that the Bell System is interested in having the FCC shift to a reproduction cost base in fixing interstate long-distance rates, and that Mr. McConnaughey, in view of his Ohio service, might spearhead such a change.

The public, the FCC Chairman stressed, is interested in good service at reasonable rates, and the method of determining the rate base is relatively unimportant if those criteria are met. He said that since he has been at the FCC his interest has not been directed toward telephone rate base questions, and that he has no intention whatsoever of attempting to alter the established method.

Much of the discussion of telephone rate-making at the hearing centered on what was to Senator Pastore an absence of machinery under which interstate and intrastate rate bases could be segregated by state commissions handling state rate cases.

Mr. McConnaughey explained to Senator Pastore some of the cooperative processes between the Commission and the National Association of Railroad & Utilities Commissioners for establishment and review of the

Please Turn To Page 34

Management Problems Due For Review During USITA Executives' Conference

MANAGEMENT PROBLEMS confronting the Independent telephone industry in this era of change, growth, and expansion will be in the forefront when executives of hundreds of telephone companies, large and small, from all sections of the United States assemble for the annual Spring Conference of the United States Independent Telephone Association (USITA) to be held April 4 - 5 at the Belleview-Biltmore, Belleair, Fla.

Industrial leaders, all competent in every branch of the telephone business and each thoroughly conversant with its past achievements and future challenges, will discuss various topics, ranging all the way from toll compensation studies, and a fair rate of return upon capital invested, to employe relations, public relations, and advertising.

Presiding over the session will be the national organization's President, Donald H. Campbell, operating head of the Rochester (N. Y.) Telephone Corp. The telephone men and their wives will be welcomed by Carl D. Brorein, president of the host company, Peninsular Telephone Co., Tampa, Fla., who is a director and treasurer of the Association.

President Campbell will then address the gathering on the topic "Our Job As It Looks To Me." He will be followed by Lewis T. Hayner, consulting engineer, Chicago, Ill., who will discuss "Progress in Conducting Toll Compensation Studies — Line Haul Prorate and Schedules 'A' and 'B.'"

The first morning's session will be brought to a conclusion with a question-answer period presided over by the following "panel of experts": W. R. Jarmon, president, General Telephone Co. of the Northwest, Spokane, Wash., and chairman, U.S.I.T.A. Toll Compensation & Settlements Committee; A. W. Lambert, California Water & Telephone Co., San Francisco, Calif., and Ralph W. Shriner, staff engineer, Peninsular Telephone Co., Tampa, Fla.

On Monday afternoon, April 4, Thomas A. Boyd, vice president, General Telephone Corp., New York, will lead off with a discussion of "Considerations Which Should Enter Into Determination of a Fair Rate of Return." The Association then will be addressed on the topic "Management and Its Relationship to Employes" by Walter F. Roberts, personnel director, Lincoln (Neb.) Telephone Telegraph Co. Questions concerning the afternoon's agenda then will be answered by the following panel: Ray Dalton, vice president, West Coast Telephone Co., Everett, Wash., and chairman, U.S.I.T.A. Personnel Committee; Arthur E. Nelson, attorney-at-law, Chicago, Ill., and Clarence H. Ross, attorney-at-law, Chicago, Ill.

"An Operating Man Looks at Advertising and Public Relations" will be the subject of an address on Tuesday morning, April 5th, by Colonel William C. Henry, president, Northern Ohio Telephone Co., Bellevue, Ohio. He will be followed by Francis X. Welch, managing editor, Public Utilities Fortnightly, Washington, D. C., who will examine the subject "Management Looks at Regulation." The question period then will be taken over by a panel composed of: Carl D. Brorein, president, Peninsular Telephone Co., Tampa, Fla., and chairman, U.S.I.T.A. Task Force on Independent Telephone Industry Institutional Advertising; L. W. Hill, president, Carolina Telephone & Telegraph Co., Tarboro, N. C.; Donald C. Power, president, General Telephone Corp., New York, N. Y., and R. E. Shotts, vice president, Telephone Services, Inc., Chicago, Ill.

Corollary meetings will be held by Secretaries of 34 state telephone associations, and the national association's 36-man Board of Directors will hold a session to pass on matters which have arisen since their meeting in connection with the annual convention of the Association in Chicago last October.

Indications are that one of the largest groups ever to attend a Spring Conference will be in attendance at the Belleair meeting.

A side trip to Cuba, deep sea fishing, and other related social activities have been arranged by Host Brorein for those who will be able to extend their stay after the closing of the business conference.

separations procedures. When Senator Pastore declared that there should be a public hearing on telephone rates and an overall pattern of separations, Mr. McConnaughey commented that he intends to have the telephone staff of the FCC "alerted" and work on such matters "much more than it has in the past."

Lower-Cost Intercity Television Service

IN LINE WITH its earlier statements that it was working on a method of lower-cost intercity television service for smaller communities off the main TV arteries, the American Telephone & Telegraph Co. Long Lines Department outlined an off-the-air-pickup arrangement in a letter to the FCC, as a major step toward the solution of the problem of extending network programs to TV stations in the more remote areas of the nation.

The matter is of considerable importance, in view of complaints by broadcasters that the smaller stations cannot afford full network service, and the institution of rule-making proceedings by the Commission looking toward a system under which private broadcasters, under some circumstances, could operate their own private intercity relay systems whether or not common carrier service was available.

Long Lines, in its letter to the Commission, said that "Where the stations in the smaller and more remote areas desire a lower cost means of obtaining network programs, the telephone company will furnish an arrangement whereby programs of a network station are picked up off-the-air and relayed over a common carrier channel to the remote station, using lower grade facilities than employed in the nationwide network.

"Considerable savings can be realized by this means through the elimination of the facilities spanning the distance between the television broadcast station and the pickup point, coupled with the elimination of the monitoring, supervision, and some equipment features which are necessary to protect the quality and continuity of service on the regular network facilities on which the programs of many television stations depend.

"The cases for which these channels may be found advantageous will vary widely as regards distances, terrain, and other characteristics which affect the physical facilities required. Pending experience with actual cases, it is desirable therefore to determine the charge for each channel reflecting the particular conditions involved. The specific charge for each channel will be published as a tariff rate and will be filed with the Commission as service is required."

In Long Lines' announcement, Director of Operations Ralph L. Helmreich said, "We are well aware of the economic problems of the more remote stations in securing network service. We have had a numbr of proposals under consideration. We believe the off-the-air arrangement is the most practical means of extending network programs to these areas at the lowest possible cost to the stations."

CWA Announces Eight Bargaining Demands

EIGHT MAJOR collective bargaining demands by the Communications Workers of America in 1955 have been announced by the union.

The demands are:

(1) ***Short-hour traffic tours.*** Reduction of those traffic central office tours ending after 6 p.m. to not more than six hours in length.

(2) ***Day and all-night traffic central office tours*** to be no more than seven hours in length.

(3) ***Area differentials*** based on geographic locations eliminated from the contract.

(4) ***Progression schedules to be shortened*** — for operators and those with similar top pay rates to not more than five years, for plant craft and similarly-rated workers, the schedule to be not more than six years. Building mechanics and other similarly-skilled and rated jobs to be not more than four years.

(5) ***A reasonable basic wage increase*** based on economic factors in existence at the time of negotiations, with start rates to be at least $1.25 an hour.

(6) ***Health insurance.*** A company paid-for plan of hospital and surgical benefits for workers and their dependents.

(7) ***Pensions.*** Improvement of existing pension plans and establishment of plans where none exists, the goal of $100 a month unaffected by social security being established.

(8) ***Transfers.*** Improved transfer provisions for Western Electric installers.—THE END.

Front Cover Story

PRESIDENT B. H. PIEPMEIER and General Manager B. F. Stalter of the Community Telephone Co. of Wisconsin called a dinner meeting January 18 at Black River Falls, Wisc., of all cashiers and combination men at 15 exchanges in the Central and Western districts to talk merchandising of telephone facilities. After the dinner meeting, officials outlined the company's program for 1955 and laid down many suggestions for all employes to follow in boosting merchandising activities for 1955. The company program was effectively supplemented by remarks from Frank Sauer and Mr. McGuire, commercial and plant managers of Wisconsin Telephone Co. at Eau Claire.

Shown on Front Cover, seated right to left: — B. H. Piepmeier, president; B. F. Stalter, general manager; John T. Samdahl, auditor; all of Black River Falls; Frank Sauer, Eau Claire; Mattie Button, Melrose; Isabella Janke, Alma Center; Lillian Sanrope, Osseo; Clara Enger, Ettrick; Eunice Towner, Trempealeau; Mayme Kells, Galesville; and Jessie Barney, Fairchild.

Standing right to left: Leo Ellis, district manager, Arcadia; Donald Marcy, Black River Falls; Alvin Lee, Whitehall; Maurice Turner, Black River Falls; Mr. McGuire, Eau Claire; Maurice Mehltretter, Galesville; William Sagen, Arcadia; D. F. Parsons, district manager, Walworth; Merle Dahl, Blair; Agnes Button, Black River Falls; C. H. Cadby, district manager, Black River Falls; Florence Hess, Arcadia; Oscar Severson, Galesville; Elsie Pischke, Whitehall; Elizabeth Staff, Black River Falls; Carleton Towner, Trempealeau; Herbert Sukopp, Hixton; George Davis, Black River Falls; Neal Duxbury, Black River Falls; Harold Hanson, Osseo; and Robert Teeples, Black River Falls.

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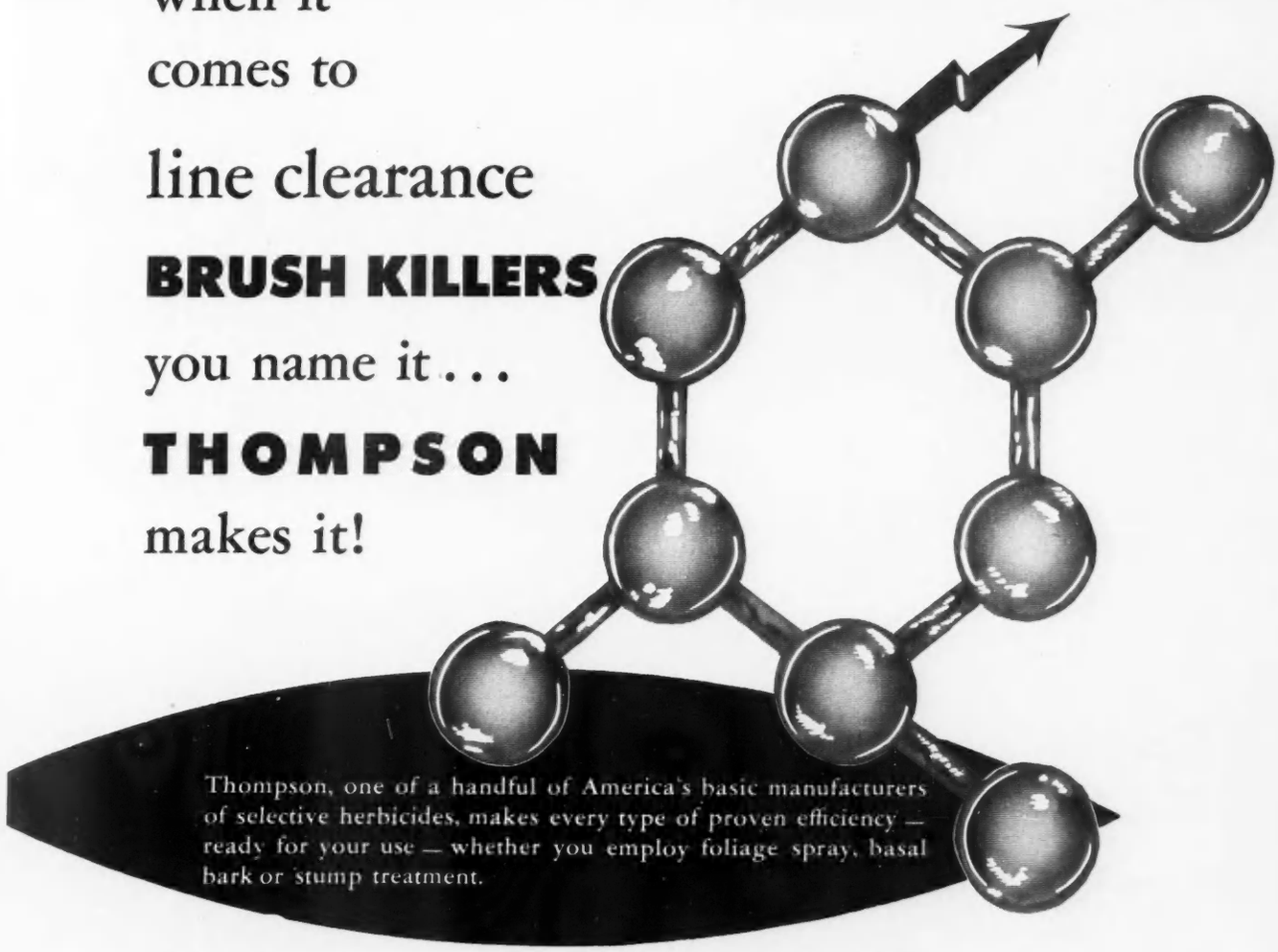

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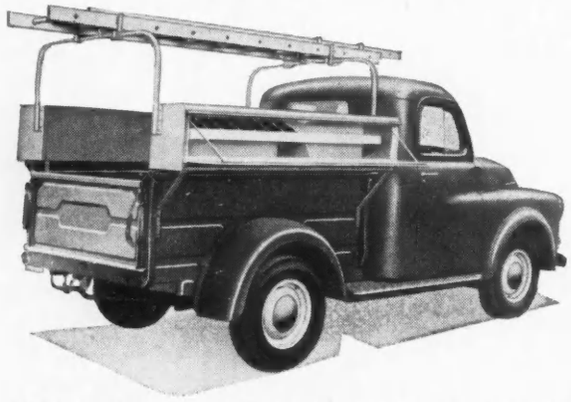

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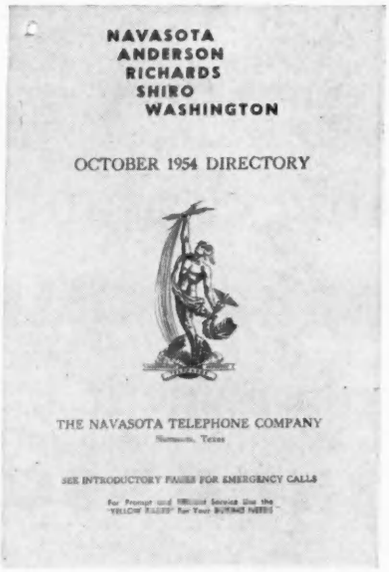

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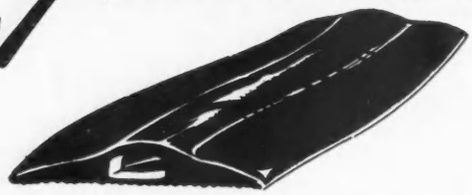

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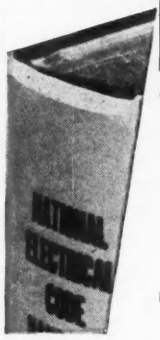

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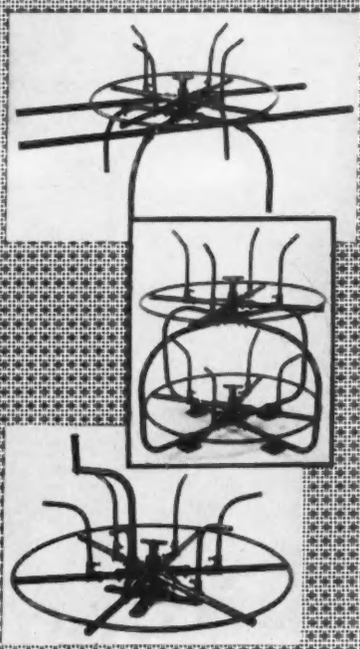

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Across The Editor's Desk

J. I. Kennedy Retires

A CHEERIER NOTE CAME in the mail last month. It is the announcement that *J. Iles Kennedy*, president and general manager of the *Northwestern Telephone Co., Freeport, Ill.*, was calling it a day after 55½ years of service to the telephone industry.

In our book we know of no man that can and will enjoy retirement like *J. I. Kennedy* as he has been saving up a lot of things to do. On May 1 he will start to do them by embarking on an extended travel program with Mrs. Kennedy. *J. I. Kennedy*, whom we consider our close friend, has served his industry well. He is a distinguished past-president of both the Independent Telephone Pioneer Association and the Illinois Telephone Association. His civic services to his community stamps him as one of the outstanding citizens of Freeport. J. I. is a man with a rare sense of humor and one who has looked forward to his earned retirement.

B. R. Anderson

B. R. ANDERSON, the new general manager of the *Northwestern Telephone Co., Freeport, Ill.*, took on his new assignment March 1 following the retirement of *J. I. Kennedy* mentioned above. Andy is well known in national telephone circles and is a regular attendant at the national telephone meetings. In years past this writer and many of the suppliers of materials to the Northwestern company were guests of Andy and J. I. when they gave an annual party at Freeport for the peddlers. A conversion program to dial service started by J. I. Kennedy will now be in the able hands of a worthy successor.

Potential Champion

FRIENDS OF GERRY GILL, owner of the *Cass County Telephone Co., Virginia, Ill.*, will be glad to hear that Gerry has a potential Olympic champion in his family. In late February the Pan-American Olympic try-outs were held in Ft. Lauderdale, Fla. and *Cynthia Gill*, Gerry's 17-year old daughter was beaten by a whisker and placed second in the 110-yard back stroke race of the swimming division. This placed her on the team for the Pan-American Olympics being held this month at Mexico City. As Cynthia is still improving in her trials and is competing in the all age class, the 1956 Olympics will be held when she attains her 18th year.

R. V. Achatz

R. V. ACHATZ, general manager of the *Southern Indiana Telephone Co., Lawrenceburg*, has been mentioned in these columns a number of times in past years for his deeds to the industry and for his fellow man. Recently he was again chosen to be honored, this time for completing his 25th year as Scoutmaster for Troop 46, Lawrenceburg.

He has been the only Scoutmaster that troop ever had and those of you that have only served a few years in a job of that kind fully realize what a workout the Prof. has had. Over 200 neighbors attended the ceremonies. Even more impressive is an Anniversary Prof. Achatz celebrated on March 1. Just 55 years ago he began his career in telephony, which incidentally included a stint as Editor of this magazine.

Executives' Conference

DETAILS OF THE coming Executives Conference of U.S.I.T.A. have been made public and indications point that this farewell Spring meeting to be held at the *Belleview-Biltmore Hotel, Bellair (Clearwater), Fla.* will be the largest one held during the history of the meeting. Convening on April 4 and continuing into the following day this gathering will bring to the West Coast of Florida the cream of the management brains of the Independent telephone industry.

The program is a worthy one and the locality should provide a delightful setting in the way of weather. Many telephone people are planning vacations in that area either just before or following the Conference.

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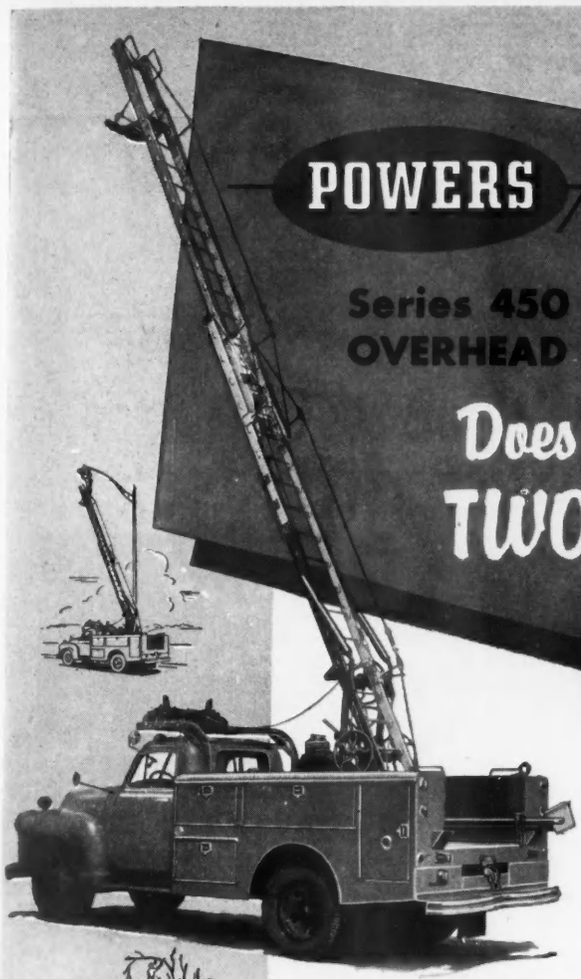

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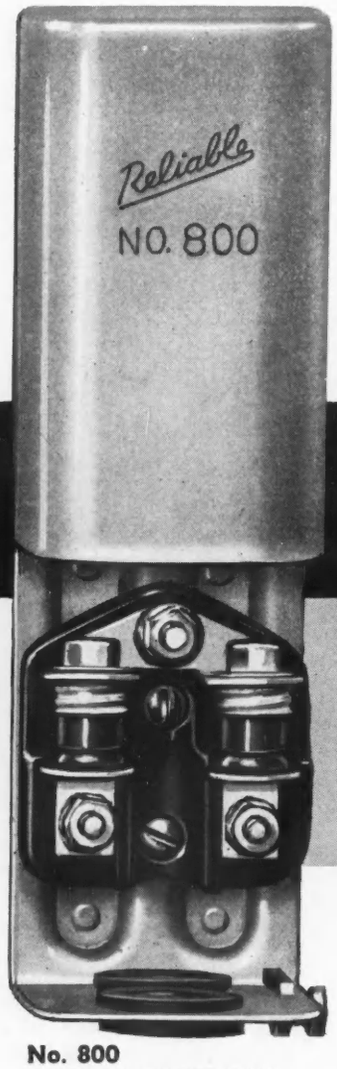

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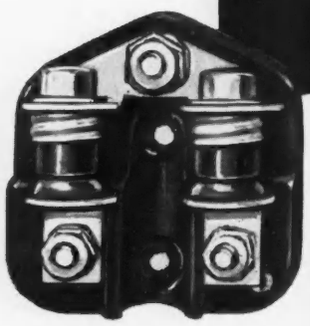

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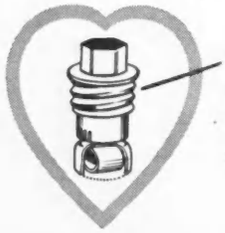

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EDITORIAL

Telephone Engineer

"Local And Long Distance"—PLUS!

WAY BACK in the gloomy days of the Great Depression, when the revenues of telephone companies were melting away like the proverbial tallow cat in the southwest corner of you-know-where, several of the telephone associations appointed special committees for a purpose that was new to the telephone business.

The purpose of these committees was to discover, if they could, new and additional sources of revenue for telephone companies.

These committees worked at their task diligently. But they had to finally conclude that, excepting for some minor things which were relatively unimportant as to the revenue they produced, the revenues of telephone companies were dependent upon two things — exchange service and toll service. And, of course, the amount of such revenues was dependent not only on the public demand for such services, but also on the type, kind and amount of equipment and other facilities available for supplying such services.

That was the situation some 20-odd years ago, and for a number of years thereafter that remained the situation. Until, in fact, radio began to play a part in commercial telephony by the development of such services as the mobile telephone.

But during the last decade, and particularly since the end of World War II, the telephone industry has become alive to the possibilities of new kinds of service that it can supply to the public.

Such new services have now, and for the first time in the history of the telephone business, become so many and so varied that the telephone industry has gone into what it calls the merchandising of them.

That word "merchandising" is, we think, very significant in this case. It is a much broader word than "sell." You can properly talk of selling a thing even if you have only one of that thing to sell. But when you talk of "merchandising" something the implication is that you have a lot of that something to sell. And when you use the word "merchandising" generally, the implication is that you have many different things to sell.

The telephone industry does now have a number of different things to sell in addition to "Local and Long Distance" and the old stand-bys of extension telephones, special cords, special bells and so on. These things include such fairly new items as recording devices, time signal equipment, special type telephones, colored telephones, loud speaking telephones, illuminated dials and others.

The foundation for all these new services and these new types of equipment is, of course, exchange service and toll service. But we think it can now be truthfully said that the industry is no longer dependent, or practically so, on "Local and Long Distance" alone.

The Bell System has gone into merchandising programs in a big way, and it is reported that the results have been beyond expectations in most cases. The answer to that is, we believe, that the public is always highly responsive to new and better products and services in any field.

A number of Independent telephone companies already have merchandising programs under way; others are readying such programs. The Independent section of the telephone industry will not be far behind the Bell System in merchandising telephone service.

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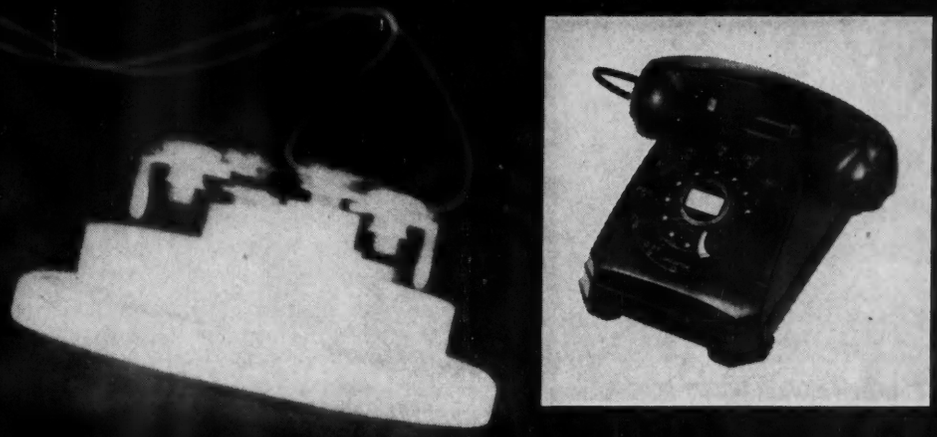

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Financing RURAL TELEPHONE SERVICE

By E. C. WEITZELL*

ALL OF US in REA have much in common with your association. We have a job to do and that is to be of service to the rural people of this great country. There are few services to be performed in this fast-moving age that are more important than communications. Telephone service to the rural people, as well as to the urban people, is a most important and essential phase of their daily lives. It is a real challenge to those of us who are associated with the telephone work in the Rural Electrification Administration to assist in the financing of telephone companies and cooperatives that are interested and willing to serve the rural areas which are still without adequate telephone service.

The task of the Independent companies is not an easy one. By and large they are small and they serve not the more profitable and densely populated areas, but the smaller towns and rural areas. They are not in a position to spread overhead over a large area or a large number of subscribers. They have never been adequately financed and management has been weak in numerous cases. These and other factors have resulted over the last 40 years in a trend which must be reversed if Independent telephony is to survive. Independent leadership must be renewed; adequate capital must be provided; and adequate rates must be obtained if the Independents are going to give their subscribers the type of service which is being demanded.

The smaller companies have lived off of their capital too long. They must now decide to obtain adequate financing and to obtain adequate rates which will compensate management, labor and capital if they are going to survive in competition with the larger companies. At the same time they must also decide to provide the quality of management which will produce and maintain an efficiently operated business enterprise. They must provide adequate accounting. They must maintain their systems in a manner that will

*Mr. Weitzell, Chief of REA's Telephone Operations & Loans Div'n, presented this address at the 1955 Convention of the Minnesota Tel. Assoc.

provide service that is equal to that of any other company. The type of organization is not going to be the determining factor. Commercial companies, cooperatives, and mutual companies alike must assume the responsibilities of public utilities which they are. Service is their only cause for being. In order to provide service they must be adequately financed and effectively managed.

Scope of Credit Problem

THE TASK of financing rural telephone service is not a particularly new one. Small companies and groups of people have wrestled with this problem for more than 40 years. In the early days of telephone service many groups of people responded to the need for communication service by organizing thousands of mutual companies and switcher lines. Many of these companies and lines are still in existence. During the same period many enterprising businessmen entered the field on a greater or lesser scale by organizing their own Independent telephone companies.

As roads, automobiles, electricity and many other additions to the economy and social life of the nation were made available, hundreds of the smaller companies were forced to give up because of inefficiency and lack of financing. The Bell companies and the larger Independents were able to expand their systems into many of the areas in which the smaller companies were not able to survive. The future of thousands of others is dependent on their ability to consolidate, reorganize and to obtain financing, not partial financing, but adequate and complete financing sufficient to do the job which they are responsible for doing.

Back in 1949 when the rural telephone legislation was under consideration by the Congress, it was my pleasure to be assigned the task of investigating the problem of extending and improving service to the farm areas of the nation. Although having been reared in a rural area served by an antiquated mutual telephone line, which was later taken over by the Bell system, I was not generally familiar with the Independent telephone industry.

In my search for material bearing on the problem I came across a most interesting publication. This little pamphlet was entitled, "The Farm Telephone Story," and was prepared by E. C. Blomeyer who was then president of the Independent Telephone Institute with headquarters in Chicago. In this pamphlet Mr. Blomeyer provided a brief and concise summary of the development and status of the Independent industry. In concluding this study Mr. Blomeyer pointed out that the farm telephone job must be done and the small companies must do their part of it.

"*Many, if not most of them,*" he said, "*must also modernize, rehabilitate, convert and expand their plants to meet the farm and non-farm service requirements of postwar years. Without government loans, where will they get the money with which to do these things? That is the real rural telephone problem in the Independent part of the telephone industry.*"

Subsequent to the time when I found this study of the Independent telephone industry, it has been my pleasure to become much better acquainted with the situation generally. I find that Mr. Blomeyer was all too accurate in his analysis of the situation as it existed then and I believe that you will agree with me that we haven't made enough progress in alleviating these conditions during the past five years.

Three Categories

IT SEEMS to me that the Independent companies fall into about three categories from the standpoint of financing.

First are those that are sufficiently large and with sufficient equity capital so that they can launch their own financing program, either through the sale of securities or by borrowing from life insurance companies.

The second category includes those medium size and smaller companies that are able to obtain partial and short-term financing from local sources, banks, and to a small extent, from insurance companies.

A third category includes a large proportion of the 5400 Independents that have been almost totally unable to obtain credit from any source. Most of them have little or no equity either as cash or usable plant and many are too small to operate effectively and efficiently at present day costs for modern service facilities. It seems quite clear to me that these groups must receive a fair evaluation and be treated according to their several needs. If they obtain financing at all, it must be provided in accordance with their condition, their ability and their needs. Certainly, credit standards for the three categories must be substantially different.

For those larger companies that can provide 30 - 50% equity, there would seem to be no serious problem. Presumably, private investment capital will flow to these companies in sufficient amounts to meet their needs. Otherwise, there would appear to be something wrong with their management.

The bulk of the smaller Independents, however, do not have equity capital in these proportions, and are not able to obtain it through the sale of securities or by other means. There would seem to be no alternative but to adopt more or less special standards of financing if these companies are to be able to survive.

An important aspect of this sit-tion is that of consolidating many of the smaller companies and rural lines in order to create enterprises of sufficient size to be operated efficiently and effectively. Along with this job of reorganizing a large proportion of the rural industry, there are many requisites to adequate financing which must be solved. These include the perfecting of organizational and corporate structures, title clearance, obtaining adequate rates, the adoption of accurate and adequate recording and accounting practices, and the provision of sound business management. How are the smaller companies to progress along these lines without a considerable amount of tutoring and technical assistance? Financing without these requisites certainly cannot be sound.

Another important facet of this problem is that financing must be available on an expanding and continuing basis. The financing of a public utility in a growing economy is not a one time operation. This is one point that is often overlooked. In addition, financing must be complete. It must be sufficient to finance all of the facilities and to provide all of the service which a particular company is expected to provide within the limits of its service area.

On several occasions the question has been raised as to ***how many Independent companies really need complete and adequate financing,*** but are not able to obtain it

from the normal capital market. Your answer will undoubtedly be as good as mine. In any event, when one takes into consideration the need for consolidating many of the very small companies and farmer lines there are still somewhere in the vicinity of two or three thousand Independent companies that should be able to survive and to provide high quality service if they can obtain long-term, low-cost capital. How much money would it take to do the job? Well, I can think of no better resume of the need than was made by Mr. Blomeyer in the publication which I have already mentioned.

"*Let us not becloud this issue,*" he said, "*by thinking of it in terms of a few loans of a few thousand dollars each so that a few small telephone companies can build some farm lines. This proposition of financing the small Independent telephone companies is in the aggregate no penny-ante proposition. In the aggregate, it is not a matter of thousands of dollars but of millions.*"

I might add that we haven't scratched the surface. It's going to take many millions more before the rural areas of this great nation have telephone communication services in keeping with their needs.

REA Attempts to Meet the Needs

IT WAS ON THE basis of these facts and the character of the Independent industry as I have briefly reviewed them that the Congress passed the amendment to the Rural Electrification Act in 1949 which commissioned REA to carry out a rural telephone financing program in a manner that would provide adequate telephone service to the greatest practicable number of rural telephone subscribers.

Accordingly, REA is in a position to make loans to any type of commercial or non-profit telephone corporation (excepting municipalities and other public bodies) that has the ability to do an effective job of rural telephony. As most of you know, these loans are made for a maximum period of thirty-five years at an interest rate of 2%.

There are five principal limitations which the Congress placed in this Act:

First, the loan must be made to finance the extension and improvement of rural telephone service. Service to towns of over 1500 population, which is the dividing line established by the Congress between rural and urban, can be made only on the basis of a finding that the financing of service within such towns is essential to the improvement and extension of adequate service to surrounding rural areas.

Second, each and every REA telephone loan must involve the extension and improvement of service. No more than 40% of any loan may be for refinancing existing indebtedness regardless of whether such indebtedness is secured or unsecured.

Third, Section 202 of Title II of the Act subordinates the activities of REA in the telephone field to the authority of state commissions, boards, or other regulatory bodies established by state law.

Fourth, the Administrator must determine that loans made by him under this authority will not result in the duplication of lines and facilities that are already providing reasonably adequate telephone service, un-

Management

IN ITS ROLE as leader of a business enterprise, management generates the basic ideas and long-range objectives in designing the overall organization, because any business must be carefully coordinated in all of its activities in order to survive as a cohesive enterprise, President Mark R. Sullivan of the Pacific Telephone & Telegraph Co. told the West Coast conference of the American Management Association at Los Angeles recently.

In his address, Mr. Sullivan declared that organization and operation of a business under well-set objectives can accomplish several worthwhile purposes. "It helps in delegating authority," he said. "It assists in streamlining the organzation structure and it makes more effective good communications between all levels of the business."

He pointed out that objectives must be formulated that are consistent in the overall and tie together each major activity of the business, and that objectives, consistent in relation to time and all-inclusive, "must be reasonably obtainable."

Business Should Operate For Good Of Community

FIRST among the rewards for management's coordination of the objectives of a business or industry, the Pacific Telephone President stated "is the streamlined effect upon the organization's structure itself." He gave an exposition of a guiding principle of the Bell System that "every business, big or little, should strive to operate for the good of the community as determined by the community's point of view."

Mr. Sullivan declared "that means every business must keep close to the people in every town and neighborhood which it serves," and the local manager must be delegated sufficient authority to make prompt and effective decisions in each neighborhood in the interest of that particular community. But he emphasized in order for local managers to have maximum freedom to act, the business must be operated under proper objectives.

Mr. Sullivan summarized his views that a good program of objectives helps in the delegation of authority right down to the grass roots, and that strengthened delegation of authority aids in streamlining the organization's structure of the business. He cited that with a simplified organizational structure communications from top management to junior management levels and supervision is made easier and more effective and with the improvement of communications within a business or industry it helps in better surveillance of old objectives.

He concluded that "each link in the chain reacts favorably on each other link and the reaction continues to go on and on." He stressed that "the entire chain reaction provides a sound blueprint for management performance."

less territorial boundaries are established by state authority.

Fifth, the Administrator must find that the security for the loan is adequate and that the loan will be repaid within the time agreed.

In addition to providing long-term, low-interest capital for the rehabilitation and expansion of rural telephony, REA has made a number of special provisions in its policies and procedures in order to fit the program more closely to the needs of the smaller companies.

Realizing that many of the Independent companies that need financing are not in a position to provide large amounts of equity capital in keeping with orthodox financing practices, REA has lowered the equity requirement to a range of 10 - 15% for all types of companies. This enables the smaller companies to provide a minimum or nominal amount of equity without jeopardizing their ownership and management rights.

Interest and principal payments on each REA loan may be deferred for a period of three years following the date of the note in order to allow borrowers to complete construction and to attain a revenue-producing status which will support debt service. This is a most important aspect of the REA loan program. Admittedly, we made a mistake in the earlier years by making this deferment period only two years. This has resulted in a number of difficulties for several Independent and cooperative borrowers. Interest does not begin to accrue on an REA loan until the funds are actually advanced to borrowers to pay for specific obligations. It is important to note that there are no loan commitment fees or charges.

Following the three-year deferment period, loan repayment with interest is scheduled in equal quarterly installments over the remaining life of the loan. This does not mean, however, that borrowers many not pay ahead of schedule. There are no prepayment penalities and an REA loan may be paid in full at any time. As the loan is paid in full the commitment of the borrower to the Federal Government is canceled in its entirety. Should there be loan funds made available that are not needed by borrowers, such funds are not advanced and never become an obligation of the borrower.

The administrative costs of carrying out the REA program and of providing certain assistance and technical counsel are not charged to borrowers. These costs of administering the program are appropriated directly by the Congress on an annual basis.

Complete Loans Essential

ONE OF THE disturbing features of some private financing plans being offered to the Independent telephone industry is that they offer only partial or short-term financing. REA has refinanced a number of these partial loans and we now have 15 or 20 under consideration. In some instances we are unable to rescue these companies because not more than 40% of any loan may be for refinancing.

In practically all cases where refinancing is required, commitment fees, prepayment penalties, and the failure to realize the lowest possible prices for central office equipment result in higher costs than would have otherwise been necessary. Independent company managements should realize that there is no alternative to a complete financing job if they are to find their place in the Nation's communication system of tomorrow. A patchup or partial job only postpones the day when it must be done right.

All REA loans are planned as complete financing for an individual segment of a telephone system or for the system as a whole. There are no limitations on the amount that a particular borrower may obtain as long as the loans are economically feasible and as long as the funds are necessary in order to finance facilities that are required for providing adequate telephone service to the widest practicable number of rural users. This is a most important consideration in financing any business enterprise and it is exceedingly important in the telephone business. To make a limited amount of money available to a telephone company and thereby cut off its ability to obtain all of the funds that are necessary for it to do a complete job is simply not practicable and not in keeping with good telephone business judgment

In this connection, loans may be made for the improvement and expansion of a part or all of a particular borrower's system. Often it is desirable for borrowers to develop slowly in order that they might not burden themselves with too large a job all at one time. There are certain limitations, however, that should not be overlooked. For example, each REA loan must stand on its own feet and must be economically feasible. We are never in favor of a patchup job. REA does not feel that a patchup of mediocre or low quality service is consistent with the directives of the Congress nor would such a financing program be consistent with the desires of the subscribers.

The problem of cost is one of the most difficult parts of the REA telephone program. The task of minimizing investments per station in order that rates can be at the lowest possible level and in order that the largest practicable number of people can afford service gives us much concern. We are attempting to tackle this problem on three major fronts: (a) We are always looking for more economical methods of construction and more economical ways of doing a particular job; (b) REA requires competitive bidding on central office equipment in order to take advantage of the lowest available cost of such equipment. The one principal exception in this connection is that, generally, we permit borrowers that already have dial equipment of a certain type to negotiate the purchase of additional equipment of the same type; and (c) REA normally requires that borrowers bid their construction for the same reasons. Exceptions may be allowed where it is clearly evident that borrowers have the ability to perform their construction on a force account basis; i.e., by using their own staff and their own supervision. This procedure, however, is limited to those exceptional cases where adequate staffs, equipment and supervision are available to do a first-class job.

Borrowers may likewise be permitted to do their own engineering if they have the ability and facilities to do so. Here again, however, REA is often misunderstood. There are those who feel that they can proceed without complete engineering plans and system designs. We do not feel that this would be in keeping with good business practice, and hence the advance of REA loan funds is always dependent on the completion of a sound engineering plan and system design. Whether

the borrower or the applicant performs it, or whether a consulting engineering firm is employed by the applicant to do the engineering, is a matter for determination during the course of the development of the loan application.

One of the saddest experiences that REA has had in the telephone loan program is that of having permitted certain borrowers to proceed with construction without first completing basic maps, without a complete area coverage or market survey of the need for telephone service, and without firm and sound engineering plans and system designs. There is no alternative to good planning, and there is no such thing as good planning except on the basis of well-conducted and well-conceived subscriber surveys and sound engineering.

In this connection, the concept of area coverage has sometimes led to serious problems. In some instances rural people have apparently been misled into feeling and thinking that they could obtain telephone service on an area-wide basis irrespective of the cost involved. It should be clearly apparent to any sound-thinking person that the cost or investment per station must be held to a level which will permit rates consistent with the ability to pay of most of the people in a particular service area. This can only be done by limiting the extension of the system to a practicable basis. Remote areas and isolated subscribers must be treated separately as a part of the line extension policy of the borrower. Practically all, if not all, state regulatory commissions will entertain tariffs which provide for an extension policy on the basis of which service may be extended to the more remote and isolated areas.

Criticism of REA Loans

SOMETIMES certain bits of criticism come back to us through our applicants and borrowers that is reputed to come from supposedly responsible sources. These reports and criticism often deal with a number of phases of telephone financing, but one of the most disturbing pertains to the matter of management control. Just recently, reports came to me indicating that individual subscribers and company managements were being told that if they obtained REA financing they would have to give up control of their systems, that management would be performed by REA, and what is more ,that individual subscribers would be subject to the guarantee of the repayment of the loan. It is difficult for me to believe that anyone would believe such gossip, but I want to explore it for a moment with you.

In the first place, ***the REA loan contract and mortgage contain no stipulations and requirements which are not normally in any other long-term*** contract and mortgage. Furthermore, a number of requirements which are usually found in orthodox long-term loan contracts and mortgages cannot be found in

"MY BRUSH WITH DEATH"

THE FOLLOWING is an account, in the lineman's own words, of his miraculous brush with death. Stressing how injury can result from carelessness, this frank story points up the need to be constantly aware of danger.

"It looked easy. I didn't think I'd get in trouble on a job like that. I'd already pulled wires through the same tree twice before that day with no trouble. It was late, and I wanted to run one more section of open wire before quitting time. It was hot, too. And that's the reason I made my first mistake. I'd had rubber gloves on most of the day. But now I took them off and put on ordinary leather work gloves. Like I said, this job looked easy.

"With my safety belt firmly buckled above the crossarm, I reached way out to pull in another section of wire. I was about to attach it to the far insulator on the crossarm. Five feet over my head buzzed two 4800-volt power lines. Too high up for any trouble — I thought.

"Between the pole we'd just finished and the one I was on was a large pine tree. The wire in my hand caught on it. That's where I made my second mistake. I should have waited for someone to pull it free from the ground. But I didn't. I yanked at it to pull it free from the branch. I freed it all right. It whipped high in the air and flicked the power lines.

"I've heard that you see your past life before you at a time like that. I didn't. I didn't see anything because I was out. They tell me that with my legs grounded against other telephone wires on our crossarm, about 3000 volts of electricity shot through me. When I came to, there was a burnt smell to the air. Another guy was on the pole beside me, wrapping a hand line under my arms to lower me to the ground. Somehow I climbed down by myself.

"I didn't know at first I'd been burned. But I was scared. My heart was pounding like a jackhammer from the shock and I didn't know whether I'd live or die; I thought my chest was going to burst. I sat down beside the road and the burns started to hurt . . . my hands, where the current had passed through my leather gloves . . . my legs, where I'd been grounded out against our wires . . . and where I'd had metal keys in my pocket.

"My partner hollered to a woman at a nearby house and she telephoned for help. A fire department rescue squad and a doctor got to me quickly. The doctor gave me medicine to slow down my heart and my burns are nearly healed now. I was back on the job the next day because I was luckier maybe than I should have been, or would have been if the wire had caught on the power lines instead of brushing them.

"I should have had my rubber gloves on, but I didn't think it could happen to me. I told you the job looked easy — those are the ones that always get you. I'll grant you those rubber gloves are clumsey, but the one time you don't wear them may be the one time you really need 'em. And that's why I'm telling this story. I want all of you to know about what happened to me because maybe the next guy who looks at a job and says 'that's a cinch' will think twice about it." — *Reprinted from "Teleflash," published by Mountain States Tel. & Tel. Co.*

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the REA forms. For example, there is no limitation on the sale of borrowers' stock by either major or minor stockholders included in the REA mortgage, and I have already indicated that there are no prepayment penalties or commitment fees levied against the borrowers of REA loan funds.

This is not to say that we are critical of normal credit practices. We are saying, however, that in order to advance the progress of rural telephony, the REA loan program has been provided by the Congress to facilitate the smaller Independent companies in doing a job that is essential to the soundness of our economic and social structure. Therefore, REA loans are intentionally planned to give the smaller companies a chance to develop and to permit them to do a job which they are otherwise unable to do.

REA is not interested in obtaining the control of management or in exercising any other controls other than those that are absolutely essential. Although we can provide a certain amount of accounting and management assistance where needed, it is our firm hope that more and more borrowers can quickly assume the full responsibility of management in order that we may devote our limited staff and time to the development of additional companies and the expansion of rural telephony throughout the rural areas of the United States.

Conclusions

IN SUMMARY and conclusion, I want to mention three matters which the Administrator's Telephone Advisory Group of Consultants asked that we clarify and publicize.

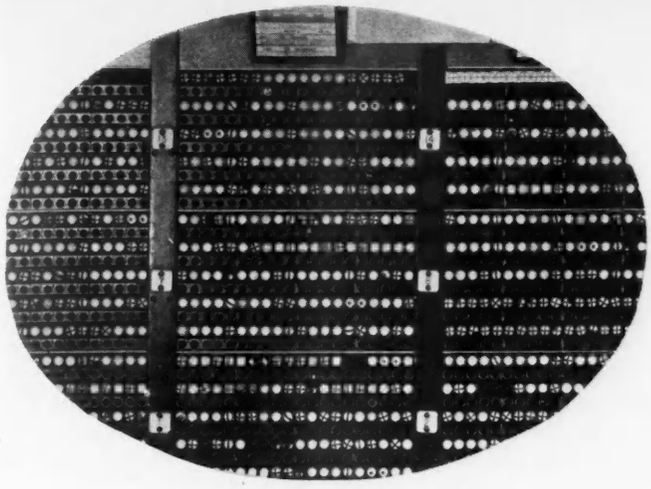
First, it apparently has not been made clear that REA will make loans to finance the rehabilitation and expansion of a portion of a borrower's system without including all of the facilities owned by the borrower. There is only one limitation in this respect. Each REA loan or each area financed by REA must be an economically feasible operating unit.

Second, I have already indicated that REA will permit certain exceptions to its competitive bidding requirements for the purchase and installation of central office equipment. In those cases where borrowers already have dial equipment of a certain make and type, REA will permit negotiated contracts when reasonable prices can be obtained in order to maintain uniform equipment and instruments in any particular system. We do not wish to complicate the maintenance problem by making it necessary to maintain several different types of supplies and equipment.

Third, the equity requirements of REA are nominal. Here again, I have already indicated that our requirements range from around 10 - 15%. This is about as low as it is practicable to reduce the equity requirement and still have some assurance on the part of the borrower and the area to be served that there is a real and a sound interest in having adequate telephone service.

The REA Telephone Program has been progressing very nicely in Minnesota. In terms of the amount of money loaned, Minnesota ranks second only to Texas. A total of $15,544,000 had been loaned to 22 borrowers as of January 1, 1955. In the United States as a whole we have loaned more than $208,000,000 to approximately 309 borrowers. These borrowers are made up of 163 cooperatives and other non-profit types of organizations and 146 commercial companies. During the calendar year just closed REA made 157 telephone loans totaling $66,346,000. Twelve of these loans, totaling nearly $5,000,000 went to borrowers in Minnesota. As you can see, the loan program has grown quite rapidly and we are hopeful of maintaining this rate of progress as our contribution to the development and the expansion of the Independent industry.

In closing, I want to compliment the borrowers and the connecting companies in Minnesota for the fine spirit of cooperation that you have developed, not only between the several Independents but between the Independents and the Northwestern Bell Company and with your regulatory commission. The progress here in Minnesota is indicative of what can be done if the Independent companies, the Bell Company, and all other interests involved in the telephone picture will pull together in an effort to overcome the obstacles which have seemed almost insurmountable. Insofar as REA is concerned, you may count on our cooperation and our most diligent efforts to assist in every possible way.—***E. C. Weitzell.***



Operating Techniques

By Ruth E. Richards

TO KNOW HOW to do the job well is all important if you would develop correct technique — the art of applying "job knowledge" in expert fashion.

HOW TO GET the "*mostest*" for the "*leastest.*" If you are a reader of continued stories you know that the general practice is to give a synopsis of what has happened up to the point of beginning the next episode. Not by the wildest stretch of imagination could one put a discussion of techniques in the class with a suspense story, but there is drama of a kind in the unfolding of methods for achieving the best results for the least effort.

So far, we've covered headset adjustment and cord and key usage. Before we go further, let's recognize that technique is a subject not to be approached with a dubious tongue-in-cheek attitude, but with the conviction that it is a pattern for perfection, a goal to be worked toward. There are many who will testify that the methods outlined are workable and the results well worth the effort required to produce them.

But, first of all, let's catch up with an operating practice change.

Toll Operating Practices

WHAT? Another change? Why can't they make up their minds?" Betcha nickel, you've had that reaction from time to time as changes have come along, sometimes very quickly, sometimes reversing a previous practice. If you have, you have a lot of company. I know, for I've been guilty too, of thinking that the established way must be the best. But, there is generally a very good reason for practice changes, reasons that all of us cannot know about, or perhaps appreciate because of limited experience. But, if we are to keep up with this changing world, provide uniform service to customers and uniform ticket entries for billing purposes, we should adapt to the new.

In our article titled, "*Three Traffic Puzzlers,*" which appeared in the January 1, 1955, issue of FORTNIGHTLY TELEPHONE ENGINEER, the routine for handling "*Credit Card Calls*" was covered. Revised procedures for handling such calls have been issued and the changes are as follows:

(1) ***It is no longer necessary*** to secure the calling party's name.

(2) ***The credit card number*** is entered in the *report space*, at the bottom of the ticket in order to allow more room in the "Spec. Inst." space for billing details.

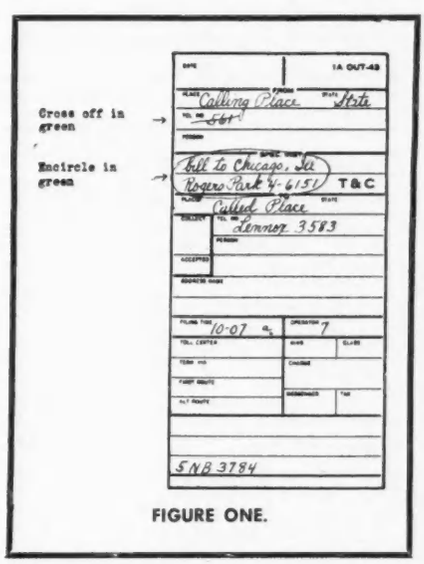


FIGURE ONE.

(3) ***The practice recommends*** a more liberal attitude toward a customer who gives an obsolete card number but says he has a new card but doesn't have it with him.

For Items 1 and 2, note the entries on *Figure* 1.

Item 3: — The supervisor may question the calling party as to the card number he is using and if it is incorrect explain that the call may not be accepted on a credit card basis. If the number is for a previous year, explain this, but be very careful not to divulge the information that identifies the card as obsolete or valid. If the customer's explanation appears plausible, that he has a current card but doesn't have it with him, secure his name and address and enter it on the back of the ticket together with his explanation.

Dialing

DIAL KEYS: — Where this key is installed, it should be operated before dialing starts, with the hand that is coming to the keyshelf, while the other hand is plugging into the dial trunk. The listening-talk key should be restored to normal at the same time, *unless* the equipment provided requires that the talk key be open while dialing.

Method: — If the operator is to listen for dial tone, it should be done before operating the dial key, or if she is to observe the start of dialing signal, it should be done immediately after operating the dial key and just before dialing starts. If convenient, the right hand should be used to plug into the trunk, so that it can be returned to the dial while the key is be-

ing set. The operator should start to dial immediately after dial tone or start of dialing signal is received. After the dial has returned to normal after the last pull, the dial key should be restored with the hand that is most accessible to it, and the listening key closed after any other work on the call is completed. The listening key is then operated on the next cord pair to be used to take a new call.

Operators should not attempt to perform other work while dialing a number. Each numeral of the called number should be fixed clearly in mind in their proper order to prevent forgetting or transposing them while dialing. Care should be taken to select the correct numeral on the dial for each drive.

Dialing With Finger: — The operator should use the index or middle finger to operate the dial, with the thumb used as a brace for the finger used, and other fingers folded so they will not obstruct the view or interfere with the operation of the dial.

The finger should be bent slightly and the hand held above the dial to the right of the line of vision to the dial. The finger should be inserted firmly in the proper hole almost perpendicular to the face of the dial, and the dial moved quickly around to the finger stop. The finger should not be removed until the dial has come to rest with the finger against the stop. While the dial is returning to normal the operator should select the next digit, but should not touch the dial until it has stopped rotating.

The wrist and forearm should be kept free from the keyshelf while dialing. The elbow should be kept close to the body to avoid interfering with other operators.

The dial should be driven swiftly, either keeping the wrist rigid and using a full arm movement, or turning the wrist itself. The swift driving of the dial is very important as it offers practically the only means of reducing the interval required for the complete dialing operation.

Use of Pencil with Dial Tool: — The dialing tool should be held firmly in the dial in a nearly vertical position and this angle should be held with a firm contact until the dial is released at the end of each drive. As soon as dialing is finished, the pencil should be restored to a writing position by flipping it over between the fingers.

If a Dial Cord is Provided: — (A) The trunk should be taken up with the left hand, if convenient, and the dial cord picked up with the right hand and plugged into the associated dial jack, while the left hand is brought back to the listening key. The operator will listen for dial tone, if required, then close the listening key. In the meantime, the right hand has been brought to the dial. Perform dialing as previously outlined.

(B) If the trunk cannot be reached conveniently with the left hand, the plugging of the front cord into the trunk and the dial cord into the dial jack may be done by the right hand in that order, while the left is restoring the listening key and doing other work. As soon as possible the right hand is brought to the dial.

As soon as the dial has returned to normal after the last pull, the dial cord should be disconnected with the hand that is most convenient.

Ticket Work

IN OFFICES where both local and toll calls are handled as a combined operation at the same position, ticket work affects operating performance. Operators should master ticket writing so that it interferes as little as possible with the smooth operating of the position.

Handling a Pencil: — If a large percent of the calls handled at a position are ticketed, the operator should practice working with a pencil in her hand. When the pencil is not in actual use, it should be held under the palm, with the fourth and little fingers, the point protruding only slightly beyond the outside edge of the hand. The top will extend between the palm and the side of the thumb. In this position a pencil interferes very little with the use of the hand in handling cords or dialing (do not use a pencil to operate a dial unless it is equipped with a dial tool. Without a dial tool, a pencil top will scar the dial face). From this position it can be moved quickly to a writing position as the hand is moved toward the ticket.

If the amount of writing is small and it is not necessary to keep the pencil in hand, it will be easier to pick up and use if it is kept in the same place at the right side of the position with the point toward the edge of the keyshelf.

Writing Tickets: — There are certain general rules which apply to ticket work, but the order in which details are entered will depend to a great extent upon the manner in which the customer places his call.

Entries of called and calling numbers should be started to the left of the ticket to allow for any necessary corrections or changes. The letters should be clear and kept within the proper spaces.

Called Number and Place: Enter the number first since it is most subject to mistake, then the office name and called place. Enter the calling number when given or requested.

Timing Tickets: — Learning to determine the correct start and finish of a long distance conversation is an important feature of an operator's job and is an item of toll training. The manner of handling the ticket itself is a part of technique.

When entering the connect or disconnect time (positions equipped with 1-A clocks, or similar timing devices, or clocks of Waltham type) the ticket should be placed on the outer edge of the keyshelf. During the conversation the ticket should be placed between the keys of the associated cord pair and those to the right of it, unless spiral ticket holders are provided. If the spiral holder is used the ticket should be placed in the spiral which corresponds in number with the cord pair in use. Insert the ticket in a lengthwise position and facing the right with the top of the ticket toward the face of the board. The operator should be alert for the change in supervisory signals on such calls.

When changing positions, the operator should check the supervisory signals in order to learn the status of each call immediately on occupying the position.

When a disconnect occurs on a ticketed call, while the operator is not occupied handling other calls, she should glance at the clock and note mentally the minutes and tenths, release the connection, and then write the complete timing entry on the ticket if necessary.

When either a connect or disconnect signal occurs on a ticketed call, while the operator is occupied handling other calls, she should make the timing entry as an overlap by glancing at the clock and noting mentally the minutes and tenths, and marking the timing entry on the ticket as soon

as the operation in progress is completed.

***Other Entries*: —** Entries such as "a" "p," your personal number or initials, the charge where necessary, etc., should be made promptly, but without interfering with answers to waiting signals. If the head is held fairly erect while writing, the operator will be able to make the required entries and at the same time keep the keyshelf and other signals within the line of vision. If line pilot signals are not provided she should glance up frequently while writing.

When the ticket is completed, cancelled or scratched, the operator should file it according to local instructions. This operation should be made without following the movement with the eyes.

***Timing Aids*: —** Key sleeves, (hollow cylinders, generally of colored plastic type material, from ½ to 1 inch in length, designed to fit over lever type keys) are used for several different purposes under various operating conditions, and their use as an aid in timing toll calls has long been an accepted practice. This explanation covers only the use of sleeves for that purpose.

Training in the use of sleeves should emphasize the point that their use is overlapped with other operating and that they *tend to decrease rather than increase* work time, as well as insure correct timing. This is especially true at positions where both local and toll calls are handled.

The sleeve serves as additional identification of the connection as a timed call. On an outward call, a red and white sleeve is used when timing a connection on which no switchboard supervision is received, such as a call from a magneto line or ringdown trunk. At the start of timing, place a sleeve, white end up, on the listening key as a reminder to monitor at one minute intervals during the initial period. At the end of this period, reverse the sleeve so that the red end is up as a reminder to monitor not less than once every 15 seconds thereafter. When conversation ends, remove the sleeve.

***How-To-Do Note*: —** An excellent substitute for commercially manufactured sleeves can be made from the spools on which adding machine tape is wound. Cut into ¾ inch lengths and marked into halves, one end may be left unpainted or painted white, and the other end painted red. Red finger nail polish may serve in place of lacquer or paint.

In this condensed version of the basic rules of operating technique, we have covered in detail several of the manual operations which go to make up the operator's job. The objective of these rules is to make the performance of these operations as easy as possible. Through their adoption the work becomes more interesting as operators learn to take advantage of an intangible rhythm in the swing of their movements. A greater measure of smoothness comes into their work as the possibilities of two-handed work and overlapping operations are explored. For those who direct the work of operators, we stress as a final thought: Remember always, that smoothness comes not from knowing the practice, but from practicing the knowing (techniques) of the work . . . *See you right here next month!*—***Ruth E. Richards.***

Revenue Booster

SEEKING a sales booster for residence extensions, the Mountain States Telephone & Telegraph Co., recently modified the Service Connection Charges' Section of its Tariff as follows:

"*Service connection charges will not apply to residence extensions if installed at the time of other work for which a service connection, move, or change charge applies.*"

In those few words, a forward merchandising step has been taken and, at the same time, the cost to the customer of establishing service has been reduced. For example, before the revision, when a customer had a main line and an extension put in, he paid the service connection charge for both. Now he will pay only one connection charge for the main line and the company will install one or more extensions for him free of charge. Not just one extension, mind you, but two, three, four, or five installed on one order when he wants that many in his home. The monthly rental, of course, will apply for each extension.

Several Bell System companies have discovered that the modified service connection charge has resulted in the sale of a much higher proportion of residence extensions with orders for main stations.

For example, one company using the modified charge has 18 residence extensions in service per 100 residence main stations compared to nine for a company using the old charge. In the first mentioned company, 13.5 per cent of the extensions are installed with main stations whereas the other company's is 2.8 per cent.

Here's how the modified service conversion plan works:

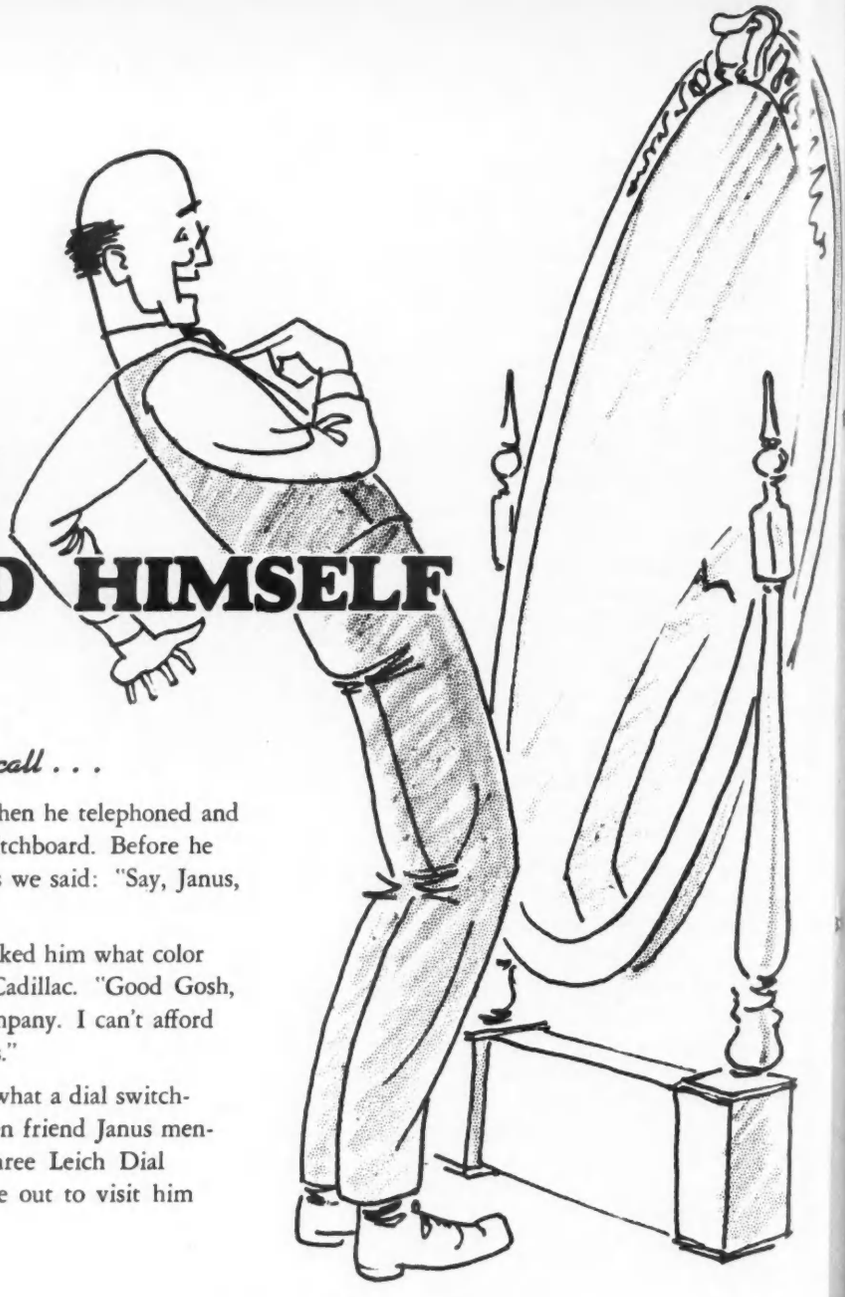
(1) A customer ordering a residence main station and one or more extensions will pay the main station service connection charge only.

(2) A customer with existing service who wants two or more extensions installed now will pay the regular service connection charge for one extension but the company will install free as many more as he wants.

(3) A customer ordering a move, or a change (where a move or change charge would be applicable) now can have installed one or more residence extensions without paying a service connection charge. For example, a customer having a black telephone removed and a colored set installed, will pay the established change charge, but the company will install one or more extensions without additional cost.

In addition to stimulating sales, the removal of the service connection charge for extensions when done with other work is also a means of minimizing installation costs. There are obvious advantages in providing adequate station service at the time that main stations are installed because separate trips to install the extension stations, are avoided. Rearrangements of main stations that frequently are required when extension stations are installed separately also will be eliminated. According to Mountain State T & T it costs about $5.00 more to make a separate trip to install a residence extension than it does when the extension is installed with the main station.

HOW JANUS JOHNSON SURPRISED HIMSELF



It all started with a telephone call . . .

We surely startled Janus Johnson when he telephoned and asked for a price on a new magneto switchboard. Before he could half finish his list of specifications we said: "Say, Janus, how about converting to dial?"

Good old Janus acted as if we had asked him what color he wanted the upholstery in his new Cadillac. "Good Gosh, man," he said. "You know my little company. I can't afford one of those expensive dial switchboards."

So we asked Janus if he had an idea what a dial switchboard would cost for his exchange. When friend Janus mentioned a figure that would buy him three Leich Dial Switchboards, we told him we would be out to visit him next week.

Janus doubts his own ability.

After an inspection trip through his outside plant and three cups of coffee, we told Janus how much a new magneto switchboard would cost. Then we told him how much a Leich Dial Switchboard would cost for his exchange.

He was amazed!

"I thought sure that a dial switchboard would cost more than this. This sounds like it might be possible."

"Just a minute, friend," we said, "You'll have to metallicize your outside plant."

That didn't scare him one bit—"I've been wanting to do that for a long time," Janus said. "You know that won't cause me too much trouble. But look! I don't know anything about this equipment. I wouldn't want to have to pay somebody to come in and take care of my switchboard, even though I would be saving operators' wages and getting higher rates."

So — throughout the lunch hour we told Janus how other folks, good telephone men like himself, came into our factory and got free training and were able to do a really fine job of maintaining their Leich Dial Switchboards.

LEICH

Janus proves he's from Missouri

The main thing we like about Janus is his honesty. He looked us straight in the eye and said: "Well, if I could convert to dial, how do I know this Leich Dial System is the best one for my exchange?"

This was the most fun of all. We went, along with Janus, for a quick trip and saw a number of Leich Dial System installations. Janus gave the exchange managers the complete treatment — he asked hundreds of questions. When it was all over he admitted that these Leich users had sold him on our equipment much better than we could have done.

Money - - - always a problem

Then Janus brought up the question that sooner or later has to be considered. "Where" he said, "do you think I'm going to get this kind of money?" We told him about a dozen different Leich Dial System owners who had solved this same problem. We talked about the different sources of financing and how each company managed to find a way. Janus said he'd look into the money angle, and we returned to Chicago.

Good News!

We could almost see friend Janus smiling when he telephoned. "Guess what — I've arranged for a loan! I'm all set! When can we get started?"

When we asked Janus if he had much trouble in obtaining his loan he said "No." He was surprised and happy at the fact that everybody involved was behind him one hundred per cent.

Happy Ending

So — Janus signed up to buy a Leich Dial Switchboard, and by the time the switchboard was ready to be shipped he had his outside plant in tip-top shape and had become throughly acquainted with the maintenance and operation of the switchboard at the Leich factory.

We sure enjoyed visiting Janus last week.

"Can you imagine," he told us, "me, Janus Johnson, only a year ago with my little magneto exchange that wasn't going anywhere? Now I'm giving first rate dial service, getting better rates, having no operator problems. I can hardly believe it but there hasn't been enough trouble on the switchboard to make me worry even a little bit. Why the people in town even think I'm a big shot. I'm sure glad you talked me into this before I bought myself another magneto switchboard."

Really Folks! We don't have a customer named Janus Johnson . . .but he's very much like a number of good Leich customers who have come up from magneto to dial service.

It's been fun working with all of them, and we'd like to suggest that we would enjoy, in the same way, working with you.

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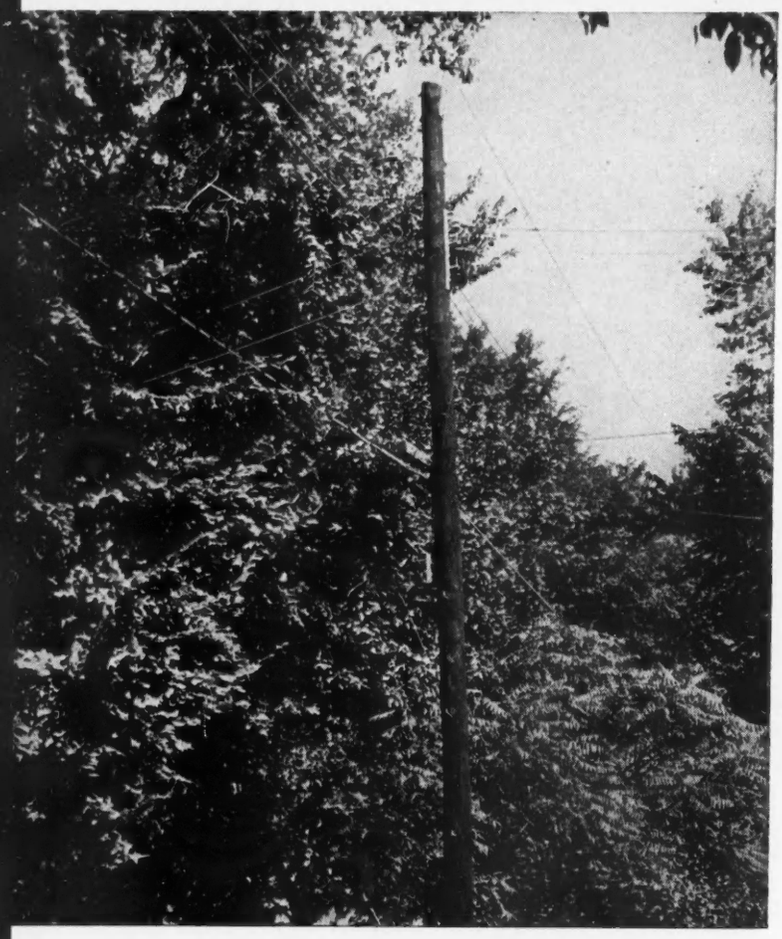
PACIFIC COAST: 2611 SAWTELLE BLVD., LOS ANGELES 64, CALIF. SOUTHWEST: 1227 SLOCUM ST., DALLAS 7, TEXAS

GENERAL SYSTEM



Small Company Talk—

Toll Settlement Problems

By BILL CORMAN*

WITH THIS article Mr. Corman begins a discussion of a common rate problem that "has been worrying small telephone companies off and on for years." It is Mr. Corman's hope that this discussion will spotlight the problem and result in suggestions for its cure.

HI, NEIGHBOR! In our last article, we talked a little about toll settlements. This is to be along that same line of thought.

As was pointed out in the previous article, most Bell operating companies did not go along with the suggestion by A.T.&T. (following the A.T.&T.-U.S.I.T.A. negotiations) of the "Supplemental B" commission. Most Bell operating companies left this out completely from the contracts they offered the Independents in their respective areas. Now, aside from the fact that leaving out the Supplemental B deprived the Independents of an estimated $5,000,000.00 annually, there is something else that is interesting about that situation. And that is the *reasoning* on which it was left out.

You will remember what the "Supplemental B" was. It was a provision, over and above the regular "B" commission, for compensating companies which had an Average Revenue Per Message under 50¢.

The reason for including the Supplemental B commission in the A.T.&T.-U.S.I.T.A. agreement was that it was discovered that toll calls under 50¢ were not compensatory — that is, the B commission payable did not compensate the company receiving it for the cost incurred in handling the call, and the supplementary B schedule of commission was suggested to offset this difference until a more satisfactory arrangement could be worked out.

That was why A.T.&T. suggested it. But the point is the reasoning on which the Bell operating companies *refused* the suggestion. They argued that no class of business should be compensated for more than the total revenue from that class.

In other words, that a 45¢ toll call should not be the basis for commissions to the various companies involved of more than 45¢ in total.

When you put this reasoning to its practical application, however, what you are saying is that exchanges which happen, because of circumstances, to have an ARPM of less than 50¢ should not be compensated for the unfortunate position they are in. And carried to its final conclusion, therefore, the Bell companies argued that each exchange must stand on its own feet, and that if an exchange happens to have an ARPM of less than 50¢, it is the problem of that exchange and that no one else need be interested. They did not say it in those words, naturally, but that is the reasoning they used to turn down the Supplemental B.

"A Puzzler"

NOW LET'S look at their reasoning in another line of rate-making (for after all, the question of toll settlements is a very real part of rate-making). Earlier in this series of articles, we pointed out that practically all large companies make no attempt to keep books on an exchange

*Mr. Corman is manager of the Southland Telephone Co., Atmore, Alabama.

basis. No profit and loss statement ever appears for example, for Birmingham, Alabama — the statement is compiled for all Southern Bell exchanges in the state, and their rate cases are state wide rate cases. Now what is the reasoning behind *that* procedure? Of course it is that Southern Bell cares not whether each exchange makes a profit or not, so long as the overall picture for Alabama is all right. In other words, they are arguing that each exchange should *not* be required to stand on its own feet.

Here, as you see, we have something of a puzzler. When Southern Bell deals with the Alabama Public Service Commission, it tells the commission, "We make *no* attempt to make each exchange stand on its own feet; all we are interested in is a reasonable overall profit for the state." And then Southern Bell turns around to the Independents and says to us, "Each exchange *must* stand on its own feet, and if it happens to have a low ARPM, we are sorry but we can't do anything about it." Obviously, somebody has gotten confused somewhere.

I don't mean to make Southern Bell in Alabama the goat of this talk, incidentally. The situation I am describing here was exactly the same thing that took place almost all over the nation (with some notable exceptions). Whether or not Southern Bell in Alabama offered its connecting companies the Supplemental B would have affected only two or three companies, and only a few dollars even in those cases. But the nationwide problem was worth $5,000,000.

As a whole, the relationship between Southern Bell and its Alabama connecting companies is very good indeed — better, I might add, than in almost any other state I know of. I am using Southern Bell's name only as illustration of the much larger picture. And, parenthetically, while I am on that subject, I want to make it clear that I have no bone to pick with the Alabama Bell folks. I know something of Bell-Independent relationships in several states and I don't know of any where the feeling and cooperation is as good as it is here.

The reason for this discussion to date is not to point a finger of ridicule at the conflict in Bell reasoning discussed above, but to look at both sides of the thing to try to find some way out of the problem.

"Two Logical Courses of Action Are Open"

SINCE THE A.T.&T.-U.S.I.T.A. negotiators recognized it, we must assume that we are faced with the fact that some toll calls cost more to put through than the revenue derived from them. In other words, it would seem that the average call on which the revenue is 50¢ or less is losing money for somebody. There are only two really logical courses of action open: One, find some way to reduce the cost of calls under 50¢ (probably by automatic ticketing or some of the other new technical developments); two, find an equitable way to split up the loss.

Both solutions are possible, and it may be some combination of both solutions which will be the best answer. But in the meantime, number two is the one on which we must work, because it will take some time to accomplish number one.

In large companies this is not much of a problem, for they will have enough high ARPM exchanges to offset the under-50¢ ones. It is the toll-center company that has only, or a big preponderance of under-50¢ calls, that is hurt badly. Why is it unreasonable for such a company to expect the companies it connects with to absorb a portion of that loss? If the hurt exchange were part of a larger company, other exchanges would be called on to share the loss — what is the difference when there happens to be an ownership boundary line between them? The suggested Supplemental B payment was a compromise attempt to do just exactly that. Maybe it wasn't the best to be found, but it was the best A.T.&T. and U.S.I.T.A. could agree on at the time.

— "What . . . No Telephone ? ?"

Why is it reasonable to base rental charges on the proposition that each exchange does not necessarily have to stand on its own feet, and not reasonable to base toll settlements on something like that same idea? The answer is that it would be just as reasonable for one as for the other

But as has been pointed out, it is usually only a smaller company that is hurt, badly, by this situation. It would therefore appear that it is up to the small companies to come up with a reasonable proposition and then to *demand*, by whatever method seems most appropriate, consideration of that proposal.

I know there are those who disagree with me on my idea that what is really good for part of the telephone industry is, in the long run, good for all of it. On certain specific points, I might relax a little, and recognize that there are at least immediate points of conflict — such as the one we are discussing here.

But it is still my idea that, on basic issues, all of the branches of the telephone industry can agree as to what is best. Of course, I also firmly believe that it is absolutely vital — that it is an absolutely necessary condition, for there to be a strong and vigorous Independent Industry.

If the Bell folks agree with these conclusions, then we have the basis for maintaining, not only a satisfactory toll settlement contract, but also a satisfactory and cooperative spirit in many other lines of endeavor. All we need to do is to discover and develop the right ideas and vehicles of approach to our mutual problems.

There is another thing that I believe. My definition of a strong and vigorous Independent Industry is one that is not dominated by any one or any one group of Independent Companies. Our strength lies in our diversity of ownership — not in the control that could be exerted by one big Independent Company. The ultimate strength of the entire Telephone Industry lies in the full development *of* the little company, *by* the little company, and *for* the industry as a whole. We are the key to whether or not, in the years to come, the telephone industry will become a government agency — socialized. We are also the key to our own success.

If we let our opportunities go by

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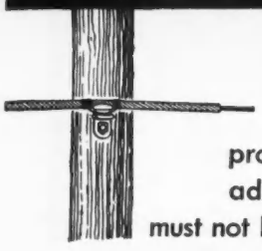

PLASTIC insulated wires within a jacket are proving to have definite electrical and economical advantages. However, this thermoplastic insulation must not be subjected to concentrated stresses. Ordinary support fittings are not suitable for this type of cable. THE ANSWER: PLP Dead-Ends and Tangent Support Line Guards used as shown above protect while firmly holding cable in an elongated grip, in which the unit pressure is small because of the large area of the gripping surface. For details of their exclusive advantages, ask your Distributor or write us for Descriptive and Technical Data.

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default, then someone else will be forced to take advantage of those opportunities — and they will not have to be forced; they are just waiting for the opportune time.

If we show that we can do our job, not just as good as, but better than, anyone else, we will have our chance to do it. If we show others that we know where we are going, and what our rights are, and what our responsibilities are, then our rights will be respected and we will be given cooperation on filling our responsibilities.

We small companies cannot expect others to provide our leadership or to point out to us the things we should understand for ourselves. We cannot expect respect from others, even in our own industry, until we evidence the qualities necessary for respect.

Have I jumped from a toll-settlement article to a sermon? Definitely not. If we expect to deal satisfactorily with anyone on toll settlements or on anything else, we have to prove ourselves worthy of negotiation. Many of us know that we are *now* worthy, and that it is simply a matter of finding the right idea and the right vehicle for negotiation, on any specific question.

You and I, Neighbor, are the ones who will have to figure out those ideas, and develop those vehicles. — ***Bill Corman.***

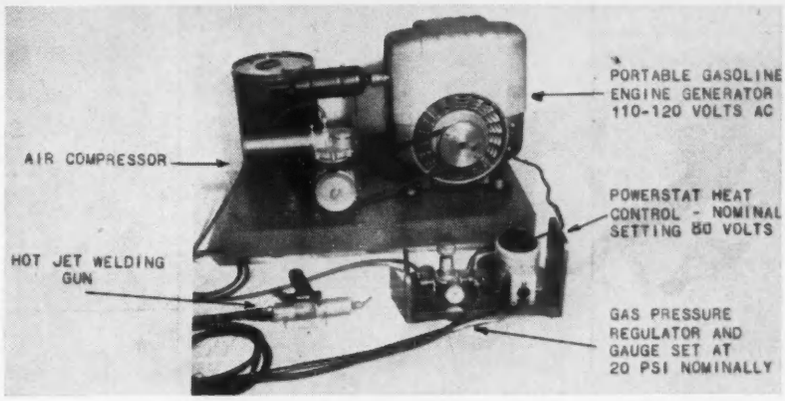
Training Directors' Society To Meet June 15, 16, 17

MORE OF EVERYTHING that is good for business, industry and government could very well be the objective of the American Society of Training Directors' Annual Convention to be held in Los Angeles, June 15, 16, and 17, 1955.

The convention will be concerned with ways and means of increasing the productive efforts of people through training and education. The 3-day program will include nationally famous speakers, panel discussions, workshops, and group discussions on such subjects as Greater Productivity, Industrial Peace and Profitable Business through Work Simplification Training, Economic Education and Executive Development.

For complete information write Ralph E. Wohlford, Publicity Committee, American Society of Training Directors, 15104 El Soneto Drive, Whittier, Calif.

FIGURE 53: — Equipment for Ansonia hot gas welding splicing procedure.


PORTABLE GASOLINE ENGINE GENERATOR 110-120 VOLTS AC
AIR COMPRESSOR
POWERSTAT HEAT CONTROL - NOMINAL SETTING 80 VOLTS
HOT JET WELDING GUN
GAS PRESSURE REGULATOR AND GAUGE SET AT 20 PSI NOMINALLY

Modern Cable Construction.....

By JOHN S. REED

IN SECTION V-A of his Article, Mr. Reed discusses the hot gas welding splicing procedure for Ankoseal cables developed by the Ansonia Wire and Cable Company.

THE ANSONIA Wire & Cable Co. has perfected a hot gas welding technique for splicing Ankoseal cable which has proved to be practical and reliable in actual field installations of Ankoseal cable. Splicers can be easily trained in the method. The hot gas welded splices can be pressure tested for leaks and any leaks found can be readily corrected.

The hot gas welding splicing procedure is not intended to replace the Ankoseal tape and lead sleeve splice method, but supplements it and provides an all-plastic sleeve splice for Ankoseal cable.

The information on hot gas splicing procedure is based on copyrighted data published by the Ansonia Wire & Cable Co.

Precautions in Hot Gas Welding Splicing Procedure

CERTAIN precautions should be observed to assure successful results in the hot gas welding splicing procedure. First, the surfaces to be welded must be clean. The sections of the cable jacket, spacer, filler rod, and sleeve to be welded should be wiped clean with a dry cloth, using suitable solvent when necessary to remove any contamination not readily picked up with the dry cloth.

Second, the filler rod must be applied with moderate pressure against the surface, and both rod and surface must be softened at the same time with the hot gas. The rod should be held perpendicular to the weld or slightly away from the direction of travel so that it will feed in under constant pressure as it is softened. The stream of hot gas should be concentrated over a small area and progressively moved around the splice at a uniform rate so as to soften the

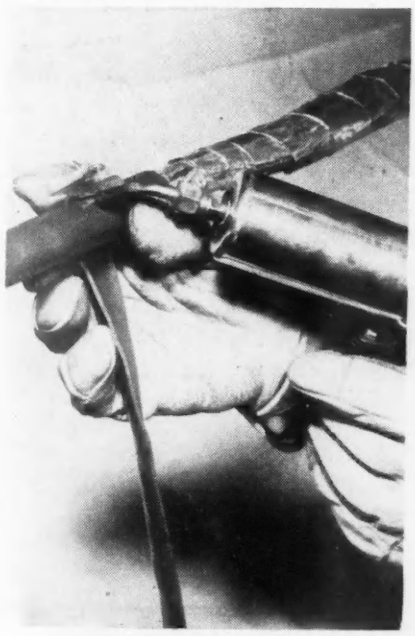


FIGURE 54: — Starting spacer strip on end of cable jacket.

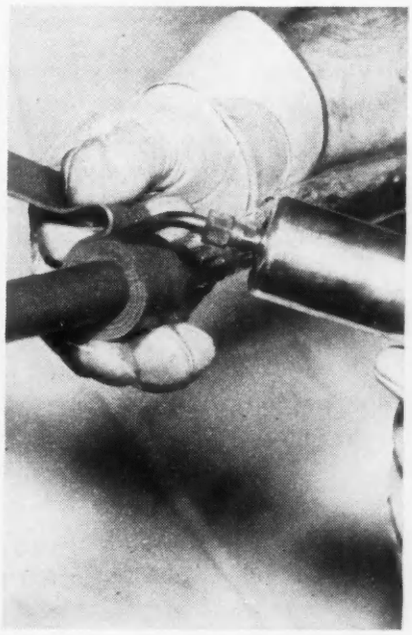


FIGURE 55: — Building up spacer around cable.

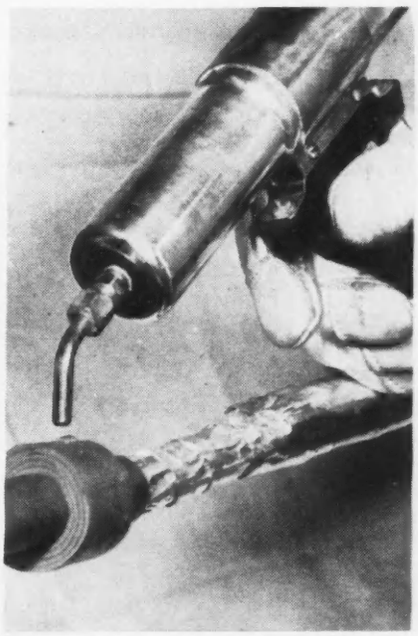


FIGURE 56: — Smoothing down end of spacer strip.

"You can watch it work!"

So simple in mechanism and circuits, you can check its operation visually—that's Strowger Automatic! It makes it easier to find maintenance men—a big advantage to small exchanges

"Simple maintenance . . . and very little of it!" That's what owners of Strowger Automatic exchanges say about their equipment.

Strowger maintenance is so easily learned that maintenance men can be easily found and trained. The switches are mechanically simple; there are few parts that wear, and these are easy to replace. Circuits are simple, for control relays are mounted on the switches they control, and the cause of any irregularity can be spotted speedily. Moreover, switching of calls progresses from rank to rank in an easy-to-follow sequence; should you want to check the operation of a single switch or an entire switch train, *you can watch it work!*"

Strowger maintenance is low. The equipment is sturdily expertly made for long, hard service, according to sound techniques developed during more than 60 years of making high quality automatic switching equipment. Hundreds of small Strowger exchanges are serving faithfully year after year, with no more than very occasional corrective maintenance.

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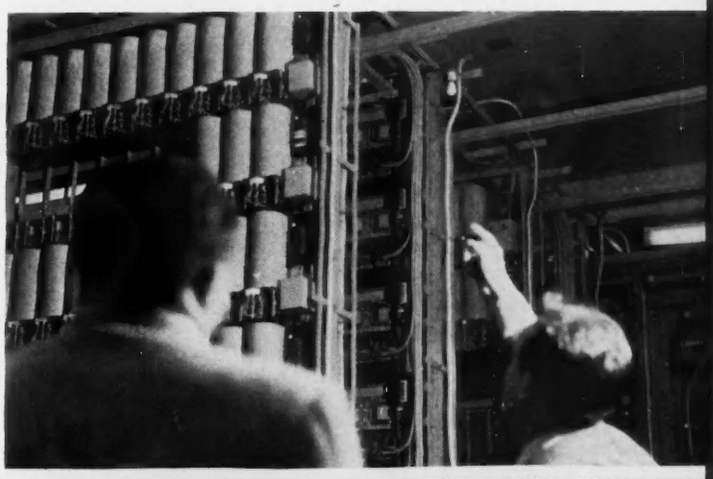
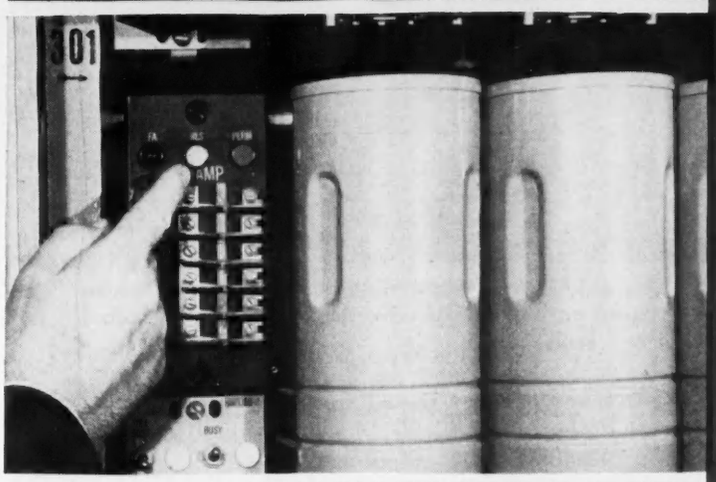
Come with us as we visit a Strowger Automatic exchange. See for yourself how a typical corrective maintenance procedure progresses by swift, logical steps that save time, money, and make things right in a hurry:



1. "Let's say a selector has not released to normal. A red lamp indicates the bay in which the affected switch is located."



2. "Another lamp indicates the shelf on which the affected switch is mounted. This switch must be one of those that is up."

3. "Listen at each 'up' switch with a test handset to find which is cut in on an idle circuit. Dialing indicates the specific nature of the trouble."

4. "Merely flip the red key to busy-out the affected switch so traffic will flow smoothly without interference. You can attend to this switch now—or later, if that is more convenient."

welding surface and the rod to the same degree. The best results are obtained by using a filler rod, spacer strip, and sleeve with the same composition as the jacket on the Ankoseal cable to be spliced so that they will all soften at the same temperature and thus provide a strong weld with a uniform cross-section.

Third, the gas temperature and pressure should be maintained at the recommended values with adjustments only as needed to meet particular field conditions. The temperature of the gas should not be too high, nor should the hot gas be held on a single point too long without moving the gun slightly as the heat is applied. Excessive gas pressure should be avoided as otherwise the softened plastic will be distorted, causing weak weld sections.

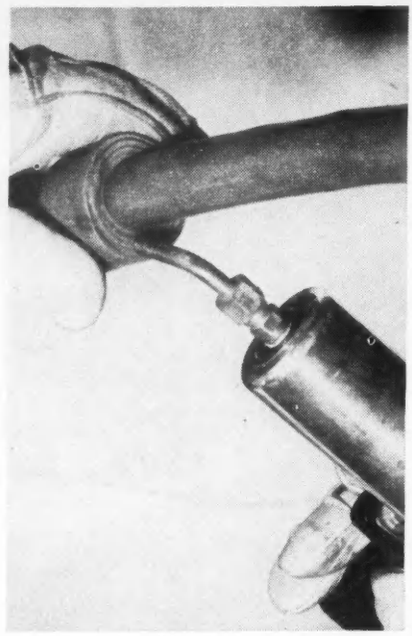


FIGURE 57: — Tacking end section of spacer.

Equipment and Materials for Hot Gas Welding

EQUIPMENT and materials for hot gas welding consists of a welding gun with accessories, a gas supply which may be compressed air, nitrogen, or carbon dioxide, a portable gasoline engine generator, pressure testing outfit, and splicing materials and tools.

The welding gun shown in *Figure* 53 is a hot jet type (DeBell and Richardson, Inc., Hazardville, Connecticut) equipped with additional lengths of hose and electric cord as required for the distance between the gun and the power and gas supply. (The standard length supplied with the gun is 10 feet.) For best results, the gun should be equipped with a 45-degree nozzle for ease of manipulation around the cable.

For the compressed air supply, any suitable compressor may be used, such as the Model 8-C, American Brake Shoe Company, Kellogg Division, Rochester 9, N. Y. (*Figure* 53). Alternatively, a compressed nitrogen or carbon dioxide gas cyclinder may be employed. A gauge and regulator are required to control the gas pressure.

A portable gasoline engine generator with a capacity of 1000 watts minimum at 110 to 120 volts is needed to operate the heating unit in the welding gun. The engine also drives the compressor. Figure 53 illustrates a Model No. 105BH-IM 115 volts, ac, 1500 watts gasoline engine generator (D. W. Onan and Sons, Inc., Minneapolis, Minn). A Powerstat heating control is used to regulate the voltage applied to the heating unit.

A small portable dry nitrogen cylinder with flexible tube and Zerk or equivalent fitting is employed for pressure testing the splices. A 3/16″ boring tool is required to make the test hole in the splice sleeve, and a soap solution is needed for indicating the presence of leaks in the splice.

The splicing material consists of sleeves, spacer strips, and filler rod of the same composition as the jacket compound on the Ankoseal cable to be spliced. The dimensions of the plastic sleeve depends upon the cable size and the technique used by the splicer in making the splice. The sleeve should be as small as possible to keep the welding operations to a minimum. The spacer strips should be about 1½ inches wide and 0.05 inch thick to support the straps used to fasten the completed splice to the strand. The strips may be cut from jackets of small Ankoseal cable. A filler rod diameter of 3/16 inches is recommended.

A sharp knife, pliers, and smooth

FIGURE 58: — Sleeve placed in position for welding.

FIGURE 59: — Starting filler rod — spacer to sleeve.

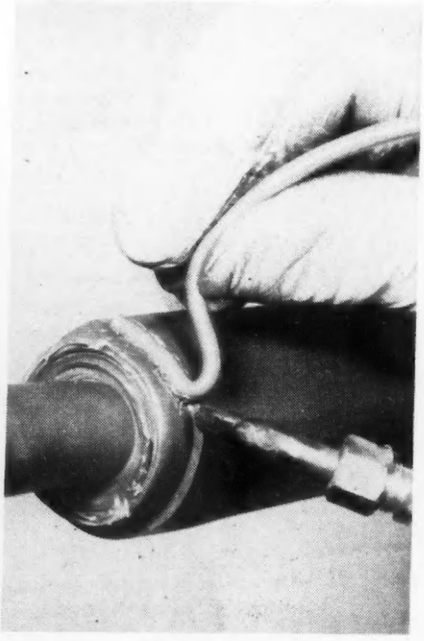


FIGURE 60: — Positioning of filler rod — spacer to sleeve.

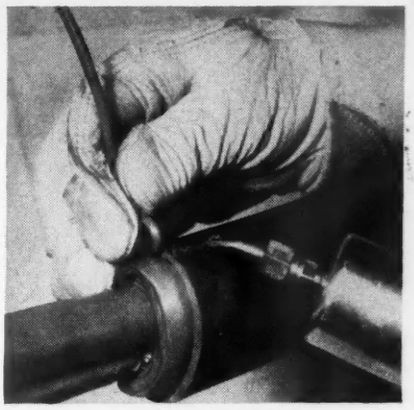


FIGURE 61: — Finishing end of filler rod — spacer to sleeve.

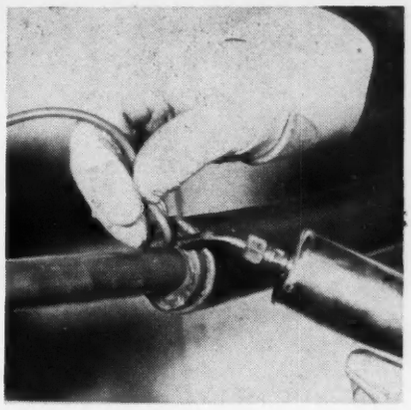


FIGURE 62: — Starting filler rod — spacer to jacket.

FIGURE 63: — Finishing end of filler rod — spacer to jacket.

FIGURE 64: — Dressing welded end section.

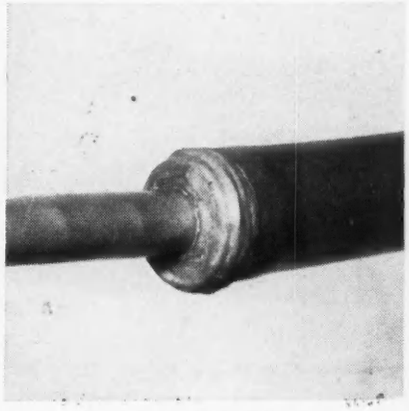


FIGURE 65: — Finished end section of sleeve.

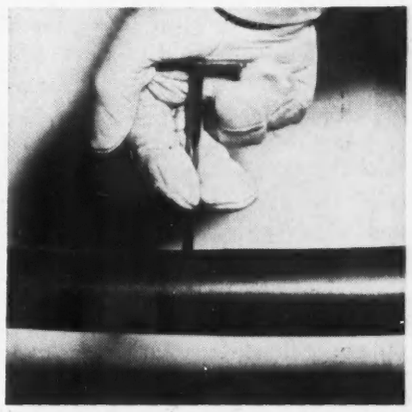


FIGURE 66: — Piercing hole for testing.

faced gloves are needed to safely handle the hot gun and protect the hand in dressing down the hot welded sections with the fingers.

Setting Up the Hot Gas Welding Equipment

SET UP the hot gas welding equipment as illustrated in *Figure* 53. Check the hose connections for leaks and tighten as required. The gas must be flowing through the gun at all times while the power is on. Adjust the gas pressure to 20 psi and the voltage across the heating unit to 80 volts. Allow approximately 10 to 15 minutes for the gun to warm up. The gun temperature may be checked at the end of this period by holding the tip of the nozzle ¼ inch away from a piece of plastic strip. The appearance of ripples on the surface of the strip after a few seconds indicates that the unit is ready for welding. The temperature may be adjusted to meet specific field conditions by adjusting the Powerstat heat control.

The power should be shut off immediately after all welding operations are completed and the gas allowed to pass through the gun for 10 to 15 minutes to prolong the life of the heating unit.

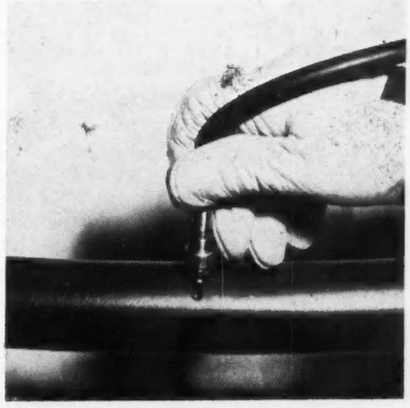


FIGURE 67: — Pressure testing splice for leaks.

FIGURE 68: — Sealing test hole with filler rod.

Procedure for Making Straight Splices

OVERLAP the ends of the Ankoseal cables. Slip a plastic sleeve of the proper diameter and length (approximately 6½ inches longer than the splice opening) over the end of one cable and push back out of the way. Secure cable ends and splice conductors in standard manner.

Weld end of spacer strip about 2 inches from end of jacket as shown in *Figure* 54. Direct hot gas on both spacer strip and jacket, and when both are softened, press strip against jacket for a few seconds to weld them together.

Wrap spacer strip around jacket a number of times to build up spacer to inside diameter of sleeve. The sleeve should fit snugly on the spacer and yet be easily slipped into posi-

tion. Soften opposite faces of spacer strip with hot gas as shown in *Figure* 55 and press the two together. Cut off excess end of strip with sharp knife and apply hot gas to the end as indicated in *Figure* 56. Press down end with thumb while the material is still soft to smooth it out. To hold spacer in position during subsequent operations, weld the edges of the spacer strip layers by heating with hot gas as illustrated in *Figure* 57 and applying pressure with thumb.

Weld spacer strip on other end of splice in same manner and slip sleeve into position as shown in *Figure* 58. The sleeve ends should be approximately 1/4 inch from end of spacer. Weld filler rod to spacer and sleeve end, as illustrated in *Figure* 59, directing hot gas on spacer, sleeve, and end of filler rod at the same time. When these materials are softened, force rod against edge of sleeve and adjacent section of the spacer to completely weld all components. Continue welding filler rod between spacer and sleeve as shown in *Figure* 60 until all surfaces are completely covered (*Figure* 61). Remove excess filler with sharp knife and dress down by applying hot gas to this section and pressing down with thumb.

Weld filler rod to jacket and spacer, starting the rod as illustrated in *Figure* 62, and continuing around the spacer until rod meets the first weld as pictured in *Figure* 63. The welded end section may be dressed by heating a small area at a time (*Figure* 64) and pressing down with thumb until finished splice appears as shown in *Figure* 65.

Seal the other end of the splice by the same process.

Pressure test completed splice with 20 psi of dry nitrogen by piercing a 3/16" hole in sleeve with boring tool as shown in *Figure* 66, and introducing the gas through the hose fitting inserted in the hole (*Figure* 67). Check for leaks on each end of splice with a standard soap solution. The pressure should be applied for about 3 minutes. Leaks are repaired by welding additional filler rod in the area of the leak. Such repaired places should be rechecked. To seal off test hole, first hold end of filler rod close to hole and apply hot gas to both rod and area around hole as illustrated in *Figure* 68. When both are

FIGURE 69: — Welding main and branch cables together.

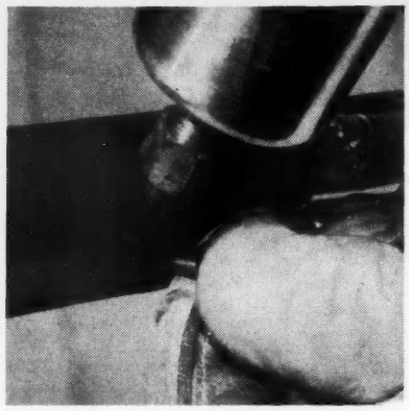


FIGURE 70: — Welding filler rod between cables.

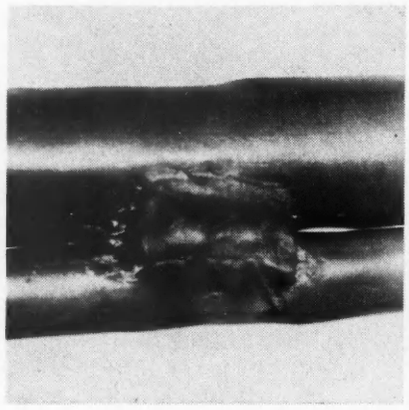


FIGURE 71: — Space between cables filled with rod .

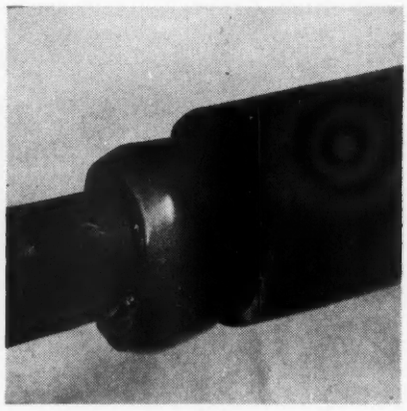


FIGURE 72: — Spacer strip applied and sleeve being positioned.

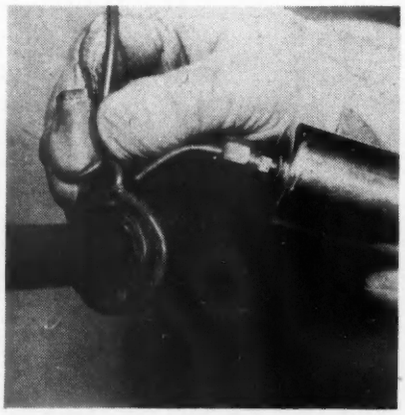


FIGURE 73: — Starting filler rod — spacer to sleeve.

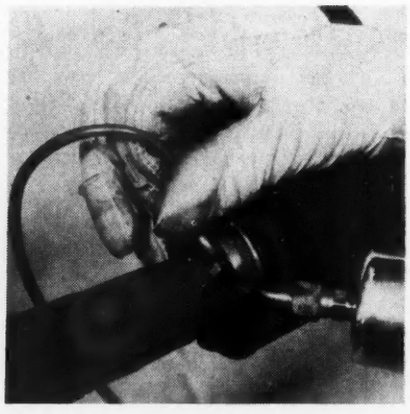


FIGURE 74: — Applying filler rod — spacer to jacket.

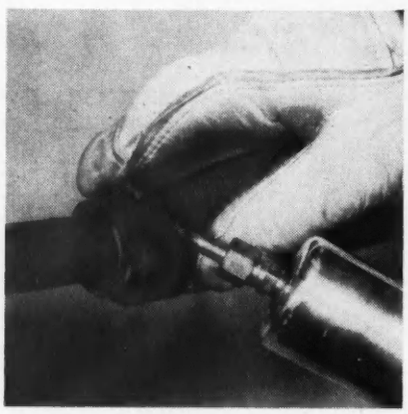


FIGURE 75: — Welding overlapped sleeve section together.

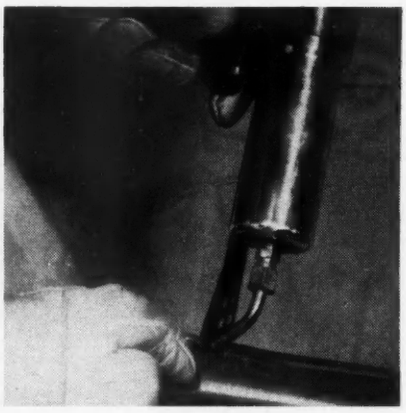
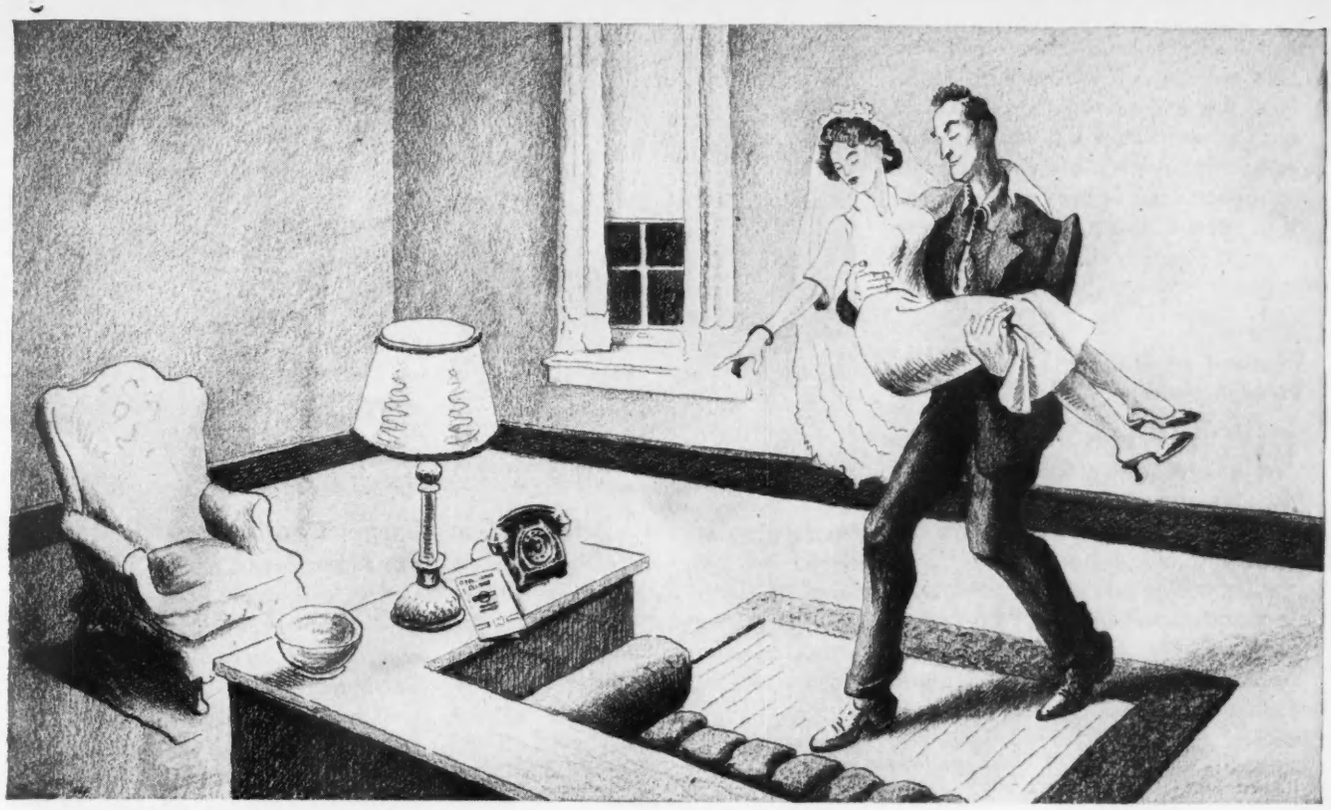


FIGURE 76: — Welding filler rod to seam in sleeve.



FIRST TELEPHONE

BY Thomas Hart Benton

When the new telephone is installed, the newlyweds *know* they have set up housekeeping.

With every telephone goes a directory to be worn threadbare by the time a new one is issued. New subscribers can find thousands of uses for the traditional American guide to better living.

From association with our clients, we know that telephone men are dedicated to public service. Nothing distresses them more than inability to provide complete service to new subscribers.

The Loomis Advertising Company believes a well developed directory is a major step in rendering complete telephone service.

When you turn over to Loomis Advertising Company the many irksome details of building a modern telephone directory you gain in two ways. You have a directory that is second to none in appearance, utility and revenue. You free personnel to do what they can do best—provide telephone service.

You're invited to get further details of Loomis' complete telephone service—without obligation on your part. Just call or write the Loomis office nearest you.

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683 cities and towns in 19 states are served by 231 Loomis-built directories.

We have commissioned Mr. Benton to draw four scenes of American life. A limited edition of 9 by 15-inch prints suitable for framing has been ordered. We think they offer a nice public relations touch to telephone office decoration. To get your Benton print FREE, write Wesley H. Loomis III, 810 Baltimore, Kansas City 5, Mo.

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EAstbrook 3477

sufficiently softened, insert rod into hole and cut off excess with knife. Heat rod and surrounding area with hot gas and flatten out small protuberance by pressing down with thumb.

Support the splice on each end with straps attached to the sleeve over the spacer filled ends of the splice.

Method of Making Bridge Splices

OVERLAP ends of cables to be spliced, slip a plastic sleeve of proper dimensions (6½ inches longer than splice opening) over one cable end and push back out of way. Secure cables and splice conductors in conventional manner. Weld minimum of 1½ inches of main and branch cables together, starting two inches from end of jackets. Hold cables apart about 1/32 inch and direct hot gas with slight motion of gun on both jackets as shown in *Figure* 69. When the jackets are softened, press cables together for 20 to 30 seconds.

Build up space between parts of cables welded together by inserting filler rod under pressure and heat between the cables as illustrated in *Figure* 70 to obtain a tight seal. Feed rod into this area until the entire space is filled out sufficiently for snug fit of spacer strip between the built up area and the cable jackets (*Figure* 71).

Wind spacer strip over the two cables and the built up area as shown in *Figures* 72 *to* 74, following the procedure described for the straight splice. Form a spacer on the other end of the splice to fit the corresponding end of the sleeve. Although the two end spacers may differ in shape, the flexible plastic sleeve will conform to these shapes.

Pressure test completed splice and support splice in the same manner as for the straight splice.

Making Split Sleeve Splice

THE PROCEDURE employed for split sleeve splices is the same as that used for straight or bridge splices up to the point where the sleeve is placed in position.

The sleeve dimensions depend upon the size of the splice to be covered. Slit sleeve and place it over the spacers with the ends of the slit

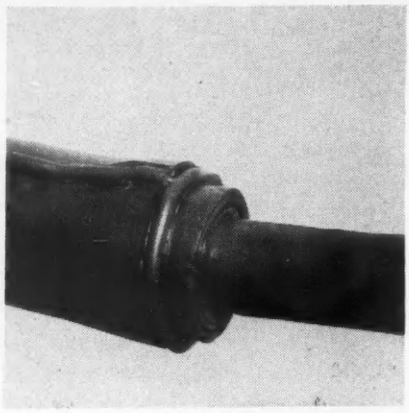


FIGURE 77: — Filler rod welded to seam and sleeve to spacer.

overlapping approximately ¼ inch. Direct hot gas between lapped surfaces of sleeve as shown in *Figure* 75 and press together when the opposite faces are softened. Continue this operation over entire length of sleeve.

Securely weld filler rod along lapped edge of sleeve as illustrated in *Figure* 76 by heating the edges and rod at same time and placing rod in position under pressure when these parts are softened by the hot gas. Continue this operation over entire length of sleeve to seal the seam. Heat immediate area of sleeve and filler rod and press with thumb to reinforce seam over entire length.

Weld filler rod to sleeve and spacer (*Figure* 77). The operations of testing completed splice and supporting the splice on the messenger are the same as for a straight or a bridge splice.—(To Be Continued.)

Holt Telephone Co. Buys Okla.-Ark. Tel. Co.

The Oklahoma-Arkansas Telephone Co., has been sold to the Holt Telephone Co., Stilwell, Okla., contingent upon Oklahoma Corporation Commission approval of the transaction.

H. S. Nakdimen, president of the Oklahoma-Arkansas company, said the Holt company was organized by J. W. Holt of Stilwell who has long been engaged in the telephone business in Oklahoma and Missouri.

At the time the sale was announced, Holt said it is the intention of the new owners to make capital improvements of the telephone service of the Oklahoma-Arkansas company.

The new owners plan to retain John P. Youmans in his present capacity as manager of the four Le-Flore County, Okla., exchanges and to keep all other personnel. The company will transfer Ross J. Holt from its exchange in Milan, Mo., to Poteau as vice president of the company.

Incorporators of the Holt Telephone Co., are J. W. Holt, president; and his three sons, Ross J. Holt, at present manager of the telephone exchange at Milan and who has had several years experience in the telephone business; Jack K. Holt, manager of the telephone exchange at Stilwell, and Carl G. Holt, who is in the oil business in Louisiana.

Larger Capital Works Ahead For New Brunswick Telephone

Steadily larger work programs over the next several years were forecast for the New Brunswick (Canada) Telephone Co. at the annual meeting held here.

President G. M. McKeil told shareholders that three major projects must be started in the near future. These include:

(1)—Construction of a microwave radio relay system from Saint John to Quebec border near Edmundston. This will augment the present open wire system, which has about reached the limit of its capacity, and connect with a similar system to be built by the Bell Telephone Co. of Canada.

(2)—Provide facilities to meet the communication needs of Camp Gagetown and associated townsites.

(3)—Provide facilities needed in company territory to co-ordinate with the continental toll dial plans. Initially, this will enable the operator to dial a telephone anywhere in North America; ultimately, the customer will be able to do it.

New Brunswick Telephone spent $3,820,948 on new construction in 1954, with a total of $3,239,392 being added to fixed capital accounts.

Dysart, Ia., Gets Dial Telephone

The Farmers Co-operative Telephone Co., Dysart, Ia., placed its new dial system in service last month. Total cost of equipment and installation was $180,000.

Rates for the new system are rural telephones, $3.00 per month; one-party business telephone, $5.00; two-party business, $4.00; one-party residence, $4.00; two-party residence, $2.90, and four-party residence, $2.15.

Your wood-treater is a specialist in giving you pressure-creosoted poles that are both clean and long-lasting

For years, pole buyers have known that the *surest* way to obtain maximum pole life was by specifying poles pressure-treated with Creosote. And with modern wood treating methods, they are getting *clean* pressure-creosoted poles without sacrificing service life.

As a specialist in wood preserving, your treater has the up-to-date knowledge and the modern equipment needed to give you this desired combination of pole qualities.

He selects sound trees for treating purposes and gives them careful handling before and after treatment. He uses a top-quality preservative like USS Creosote.

During treating operations, he keeps all conditions under careful control. And as a final step, every pole is inspected to make sure it meets your specifications for treatment and cleanliness.

With this experience and technique available to you, you can be sure of proved pole life and cleanliness when creosote is used.

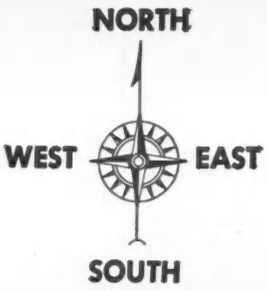
For outstanding results, make USS Creosote a part of your pole specifications. It is a top-quality product, produced under controlled conditions in United States Steel's tar distilling plants. For complete information, contact the nearest U. S. Steel Coal Chemical Sales office listed below or write directly to United States Steel Corporation, 525 William Penn Place, Pittsburgh 30, Pa.

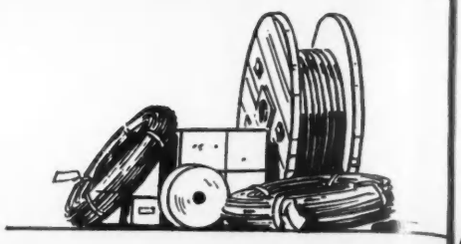
SEE THE UNITED STATES STEEL HOUR. It's a full-hour TV program presented every other week by United States Steel. Consult your local newspaper for time and station.

USS CREOSOTE

SALES OFFICES IN PITTSBURGH, NEW YORK, CHICAGO, CLEVELAND, SAN FRANCISCO AND FAIRFIELD, ALA.

UNITED STATES STEEL





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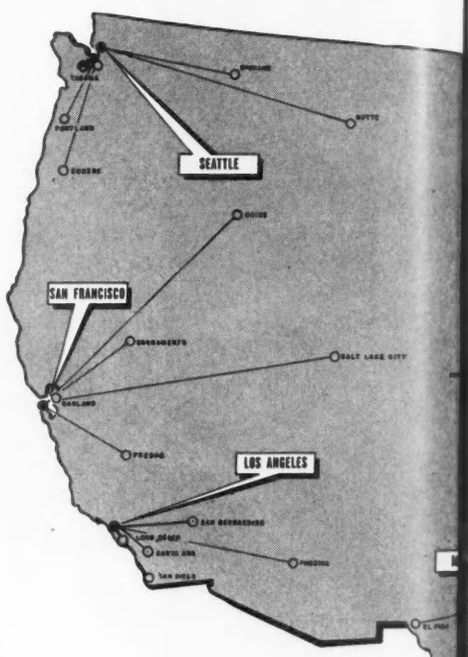
To Independent Telephone Companies

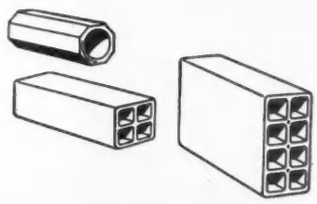


From its earliest beginnings, the telephone industry and Graybar have grown up together. And, with every advance in telephony, Graybar has extended its facilities and services in a tradition that still remains unchallenged.

Furnishing the thriving independent telephone industry with supplies and equipment for efficient, profitable operation is the job of your local Graybar Representative. His intimate knowledge of *your* requirements, backed up by Graybar's close contact with the nation's leading suppliers, simplifies your purchasing problems and assures "on time" deliveries.

And remember, complete catalog and specification data is always available on any of the hundreds of items you need – from fuses to switchboards . . . poles to insulator pins . . . tools to terminals. We'll welcome your call for information.

For service, for speed – you'll find it pays to make all your orders read... "via Graybar."



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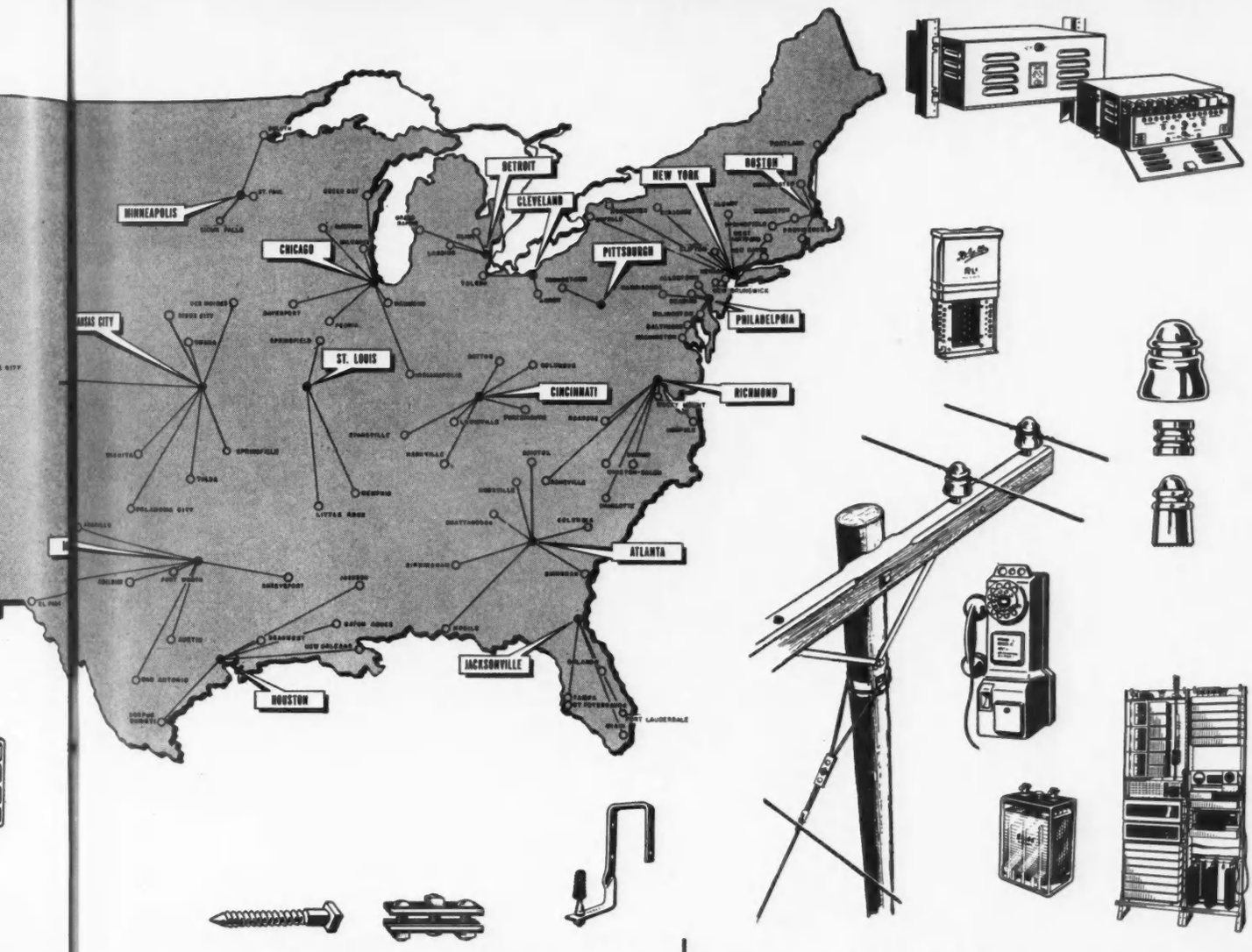
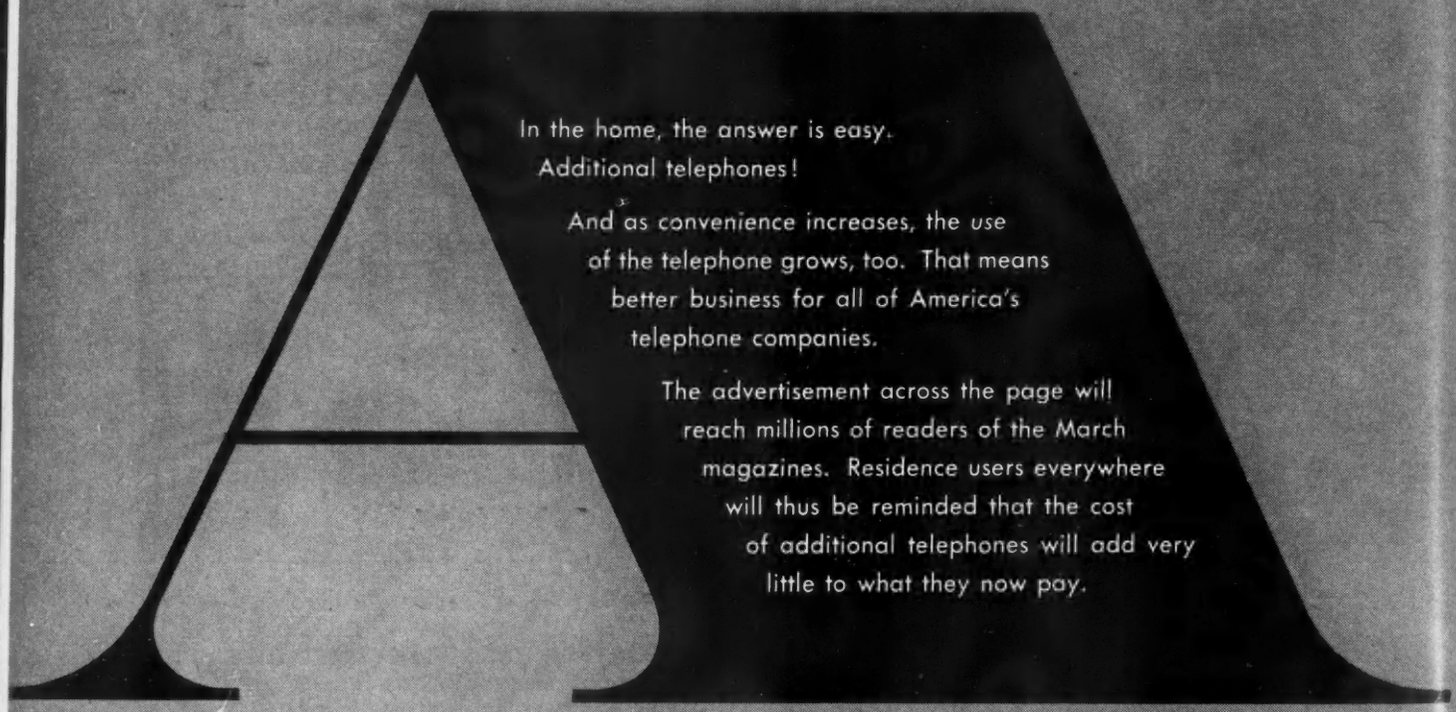


A NATIONWIDE WAREHOUSE SYSTEM . . .
85 years' experience helps us to anticipate and forestall local shortages before they become critical . . . permits us to shift emergency stocks to meet your requirements. Over 110 strategically-located offices and warehouses make Graybar service as close as your telephone!

GRAYBAR TELEPHONE SPECIALISTS . . .
located throughout the country to assist you, your contractor or consulting engineers in solving out-of-the-ordinary problems. Remember, too, that Graybar is owned solely by its operating and retired personnel. You'll get that extra bit of attention from friendly people anxious to please.

What makes telephone service even more convenient?



In the home, the answer is easy.
Additional telephones!

And as convenience increases, the use of the telephone grows, too. That means better business for all of America's telephone companies.

The advertisement across the page will reach millions of readers of the March magazines. Residence users everywhere will thus be reminded that the cost of additional telephones will add very little to what they now pay.

"It's all right... *there's a telephone right here, too"*

The man who has a telephone at his elbow in the office appreciates the same convenience in his home.

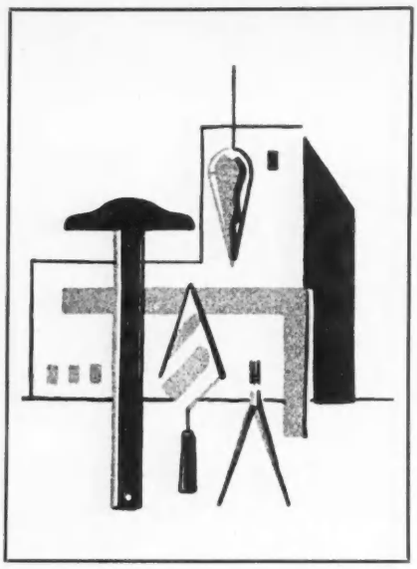
He knows that running downstairs or from room to room to telephone is an unnecessary waste of time and energy . . . when additional telephones, conveniently placed, cost so little.

Great thing for Mother, too. For telephones in the kitchen and bedroom will save her many steps. And give her greater peace of mind, especially at night when she may be at home alone.

All of this convenience—and safety too—can be yours at small cost for each additional telephone. Just call the business office of your local Bell telephone company.

Bell Telephone System

SERVICE THAT'S WORTH SO MUCH...COSTS SO LITTLE



A monthly report on-

New Equipment and New Methods

***TRANSISTORS** pave way for tiny appliances . . .*
New service entrance mast for outdoor booths . . .
New waveguide may someday join coaxial cable and radio relay.

Transistors Pave Way for Tiny Appliances

TINY TRANSISTORS are ushering in an era of midget appliances, machines and gadgets. Thanks to this pea-sized electronic marvel, the day is coming when you will wear wrist radios, play desk-size organs, and hang your TV set on the wall in a picture frame. Hearing aids will be the size of an ordinary matchbook and even giant electronic "brains" will become much smaller.

Transistors, developed by Bell Telephone Laboratories and now produced by a score of firms, do the same job as vacuum tubes — controlling the flow of electrons — often more efficiently and cheaply.

The heart of a transistor is a tiny speck of germanium or silicon metal attached to thin wires in spider-like fashion.

The Bell System is using the transistor in many applications. One is a new system which promises to bring more and better telephone service to rural areas — "without adding more telephone lines."

Mervin J. Kelley, president of Bell Laboratories, claims "it will now be possible to do things with transistors which heretofore have been prohibited by the size, weight, power requirements, or lack of reliability of alternate methods."

Service Entrance Mast For Outdoor Booths

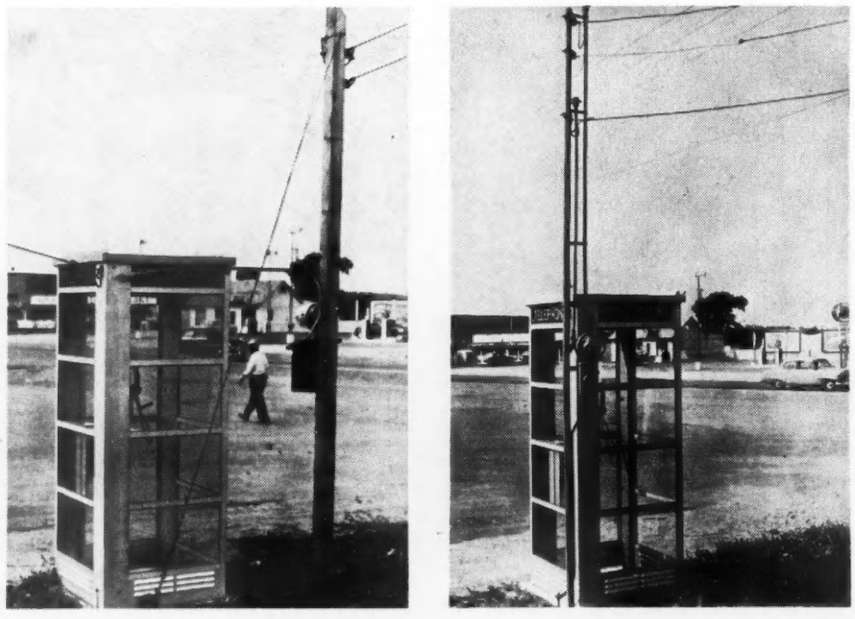
A new development for further improving the appearance of outdoor telephone booths and reducing the cost of installation is being used by several Bell System Companies.

The development, known as the "TBM Service Entrance Mast," is a round metal "mast" which is set in the ground next to the booth. It is designed primarily for booths set away from the buildings or telephone poles. In many cases, it eliminates the necessity of setting an additional telephone pole or a wooden 4 x 4 post for electrical fixtures.

Besides being easier to install, the new device also provides an attractive setting for the new aluminum telephone booths.

The new mast, manufactured by Utility Service Co., Inc., Racine, Wis., is made of C1050 steel tubing and may be obtained in lengths up to 18 feet, shipped knocked-down. The electric feed-in conduit from weatherhead to meter jack, cut-off switch box and flexible connector to booth are all assembled in manufacture, as are the weatherhead and feed-in conduit, with a flexible connector to the booth for telephone drop. All units are finished with "Miti-Mast" Gray by Rust-Oleum and carry a weather-resisting guarantee of five years or more.

The service mast is installed by driving a hollow point or ground sleeve (three, four or five feet long) and placing the assembled mast into it. An ordinary sledge hammer or a driving tool may be used for driving the ground sleeve. A template for locating the ground sleeve is provided



Installation (at left) of service wires using timber. Right—Same installation using Telephone Booth Mast.

with each mast as well as complete instruction sheets. The units are now being installed in less than 30 minutes, and will fit any outdoor booth.

The mast may be procured with any wiring features desired; such as telephone feed-in only, telephone and electric feed-in, (no meter or switch box) or telephone and electric feed-in with meter and switch box, including time switch and flood lights when required.

It may also be obtained without wiring features for use as a pole to attach pay telephone signs, flood lights, or as a temporary intermediate attachment.

The mast used by the Wisconsin Bell Telephone Co. is steel tubing slightly under two inches in diameter and stands either 12 or 14 feet high. Attached to the mast are telephone and electrical conduit for carrying the lines from the top of the mast down to the booth, a cutoff power switch box, and a flexible connector to the booth. It also can be used, without the wiring features, as a pole to attach pay telephone signs or flood lights.

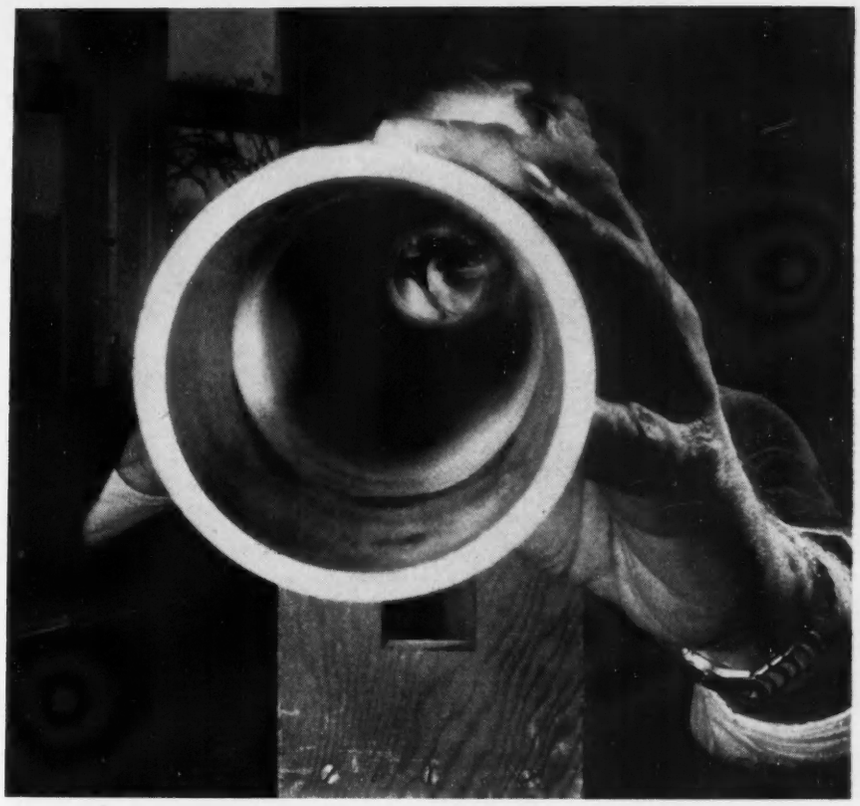
The entire device can be set up by the station installer at the same time he installs the booth. Clearance is sufficient anywhere except over roadways.

New Long Distance Waveguide

A NEW AND RADICALLY different medium for transmitting television and telephone conversations over long distances has been used successfully in experiments, Bell Telephone Laboratories announced February 3.

The new medium, a long distance waveguide, is markedly different from modern cable or radio relay systems — it uses hollow metallic tubes roughly two inches in diameter.

Bell scientists believe the new waveguide may someday simultaneously carry tens of thousands of cross-country telephone conversations along with hundreds of television programs. Top capacity for the most modern of coaxial cable systems is 1,860 two-way telephone conversations or 600 such telephone conversations and two TV programs simultaneously on a pair of coaxial tubes. Modern coaxial cables have eight such tubes, two of which are kept as spares for emergencies.



NEW LOOK: — That hollow tube being held by a Bell Telephone Laboratories engineer is the newest look in telephone and television transmission. It is an experimental long distance waveguide, made of flexible copper, two inches in diameter. An outgrowth of radar, the long distance waveguide may some day join coaxial cable and radio relay as a heavy-duty transmission medium for the Bell System.

Waveguides made of solid metal tubing — roughly like a metal water pipe — have been widely used for some time for short distances. It would be possible to use these solid metal tubes for long distances if they were perfectly straight, but this is impractical.

The new long distance waveguide is also a hollow tube, but it is constructed of a thin copper wire, very tightly coiled — like a spring under pressure — and wrapped inside a flexible outer coating which holds the coiled wire in place. This type need not be straight and can actually carry signals around corners.

Experiments indicate that both the solid tube type waveguide and the new coiled wire or "helical" type of waveguide can be used together in communications systems, the first for short distances and the latter for long distances.

Recent experiments at Bell's Holmdel, N. J. laboratory indicate that the new waveguide transmission is extremely promising and might, when fully developed, join coaxial cable and radio relay as an everyday transmission medium for the Bell Telephone System. Engineers hope to use the new waveguide in a variety of ways; one of these might be with a heavy protective coating so that the hollow tubes are run underground.

Although this new form of transmission is still in the experimental stage, a recent long distance test was made at Holmdel in a copper pipe 500 feet long. Engineers bounced signals back and forth in the tube for distances of 40 miles. They calculated that in comparison, the same waves could have traveled only 12 miles in a coaxial cable with the same loss in strength.

The new transmission system operates in a frequency range so high that it has never before been put to practical use for communications. As a matter of fact, this range is so high that engineers do not have a name for it yet although the short waves used are known as millimeter waves. The "super high" frequency range established by the Federal Communications Commission goes up to 30,000 megacycles. The carrier frequency for the new waveguide is about 50,000 megacycles.

A major difference between transmission through the new waveguide

and through previous systems is that the higher the frequency in the waveguide, the less the loss through attenuation. This is exactly the reverse of other forms of transmission.

Waveguide Study Started In 1932

STUDIES of waveguides have been in progress at the Bell Laboratories for nearly a quarter of a century. In 1932 a fundamental experiment demonstrated that electric waves could flow through a hollow tube for several hundred feet and this was the foundation for later development work in this field. A store of mathematical knowledge was built up and scientists studied many tubes in different shapes and of different materials.

This early knowledge was applied by Bell Laboratories in the development of radar during World War II when waveguides were used to funnel radar signals from an antenna to receiving equipment. Similar waveguides and others of a more advanced design are now in use in the Bell System to carry signals on microwave radio relay towers. Some of these, as well as the new long distance waveguide, are round.

NEW WAVE GUIDE: — This hose-like tube is the Bell Telephone Laboratories' new long distance waveguide, a radically different means for transmitting television and telephone conversations.

Beyond the prospect of an improved transmission with the long distance waveguide is the possibility of learning how to use tiny wave lengths on the order of one millimeter, about a 25th of an inch. If this should become possible, the waveguide of the future may be no thicker than a fountain pen and still carry tens of thousands of telephone messages.

G. I. Telephone System

A NEW, PORTABLE, G. I. telephone system, which can handle three times as many conversations over a single cable as comparable Korea and World War II systems, has been developed for the U. S. Army Signal Corps by Bell Telephone Laboratories.

Basic equipment for the new telephone system is contained in units about the size of large suitcases which can be handled by only one or two men. These units are designed so they can be stacked one on another. The "carrier" principle used for the new system allows 12 conversations to share the same cable by using a different frequency for each.

The system, providing for 12 simultaneous conversations, can be used for distances up to 200 miles. Another, a four-channel system, can be used for four simultaneous conver-

Please Turn To Page 76

How to Solve Your Cable Spinning Problems the Easy Way

Platform Clamps
Support splicer's platform from aerial cable —spun or otherwise. Won't slide on grade or damage cable. Bronze alloy.

Handline Block,
specially designed for spun cable, may be used on cable with any other kind of support. Clamps on strand. Won't slip on grade or damage cable. No wrench is needed. Bronze alloy.

Single Eye Hooks
...for four supporting adjustable ropes of a splicer's platform. Cadmium-plated steel.

Double Eye Hooks
make splicer's platform readily adjustable ...by threading supporting ropes through double eye. Cadmium-plated steel.

LITTLE GIANT Slack Pullers

Here's a combination of great strength and very simple operation...to make difficult operations easy. Furnished with either slip handle (left) or ratchet (right). Moving parts cadmium plated.

Lashing Wire Clamp
designed by Neale, holds spinning wire with positive action clamp when terminating at pole. Also keeps slack from running back in cable repairs. Bronze alloy with cadmium plated screw.

Soap Can & Brush
keeps pressure testing soap or paint in excellent condition. Cast aluminum for light weight. Tight-fitting cover serves as handle for brush. Container equipped with spring belt clip.

Cable Placing Ring Guide Roller
offers means of pulling cable in and takes down pull on tow line to truck. Cadmium plated steel with bronze bushing.

Cable Placing Shoe
is used ahead of spinner to raise cable from reel to strand in placing and spinning cable. Also used stationary at pole when placing with rings.

Steel Placing Rings
...for light cable. Slip rings onto cable at pole and attach to pulling line. Rings distribute themselves every five feet along span. Sets of 20, including 110 feet of rope attached.

Bronze Cable Placing Ring.
Roller design eliminates sheath damage of all sizes of cable. Cast bronze body and bronze rollers.

CABLE SPINNING MANUAL
gives complete details on operation of Neale Cable Spinner with easy-to-follow service and maintenance instructions.

CABLE SPINNING
Equipment Company PHONE 2-7234
3100 TOPEKA AVE. TOPEKA, KANSAS

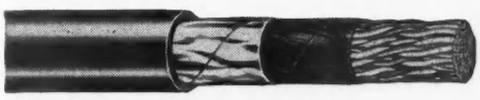
Choose

For ALL your Wire and Cable Needs

SIX PAIR RURAL DISTRIBUTION CABLE

The completely color-coded cable which has gained widespread acceptance as the most economical way to extend rural service. Construction is similar to that of 16 Pair Distribution Cable described at right. Easy to install—excellent electrical characteristics. Can also be used as multiple drop wire to small apartments and office buildings.

TELECABLE EXCHANGE AREA CABLE



Exchange Area Cable for aerial and duct use with polyethylene insulation and polyethylene sheath . . . the thermoplastic sheath that provides lasting protection. This cable has excellent transmission characteristics and can be depended upon to give long trouble-free service. Sizes up to and including 202 Pair available.

TELECABLE INSIDE WIRING CABLE

Telecable Inside Wiring Cable has semi-rigid Plastite® insulation and brown or ivory Plastite jacket. It is light in weight and water resistant. Unaffected by humidity, Telecable inside wiring cable is ideal for duct work. Its long life assures low maintenance costs. 6 to 76 pair available.

A full line of carefully engineered and manufactured wires and cables is available for your needs.

NEW 16 PAIR DISTRIBUTION CABLE

THE MOST ECONOMICAL TEMPORARY METHOD OF EXTENDING SERVICE TO GROWING RESIDENTIAL AREAS

- **EXCELLENT ELECTRICAL CHARACTERISTICS**
- **EASY TO INSTALL**

Low-loss transmission—Low capacitance—High dielectric strength—Weather resistant.

Each individual conductor has No. 19 AWG soft copper conductors, polyethylene insulation and polyvinyl chloride jacket, completely color-coded.

Paired conductors twisted around polyethylene covered, high strength steel core.

DESIGNED FOR ECONOMICAL INSTALLATION

Light weight—Long lengths—Self supporting.

No crossarms needed.

Cable can be attached to the pole, making a neat, inconspicuous installation and requiring a minimum of trimming in wooded areas. On poles with crossarms already filled, capacity can be increased by 16 pairs by attaching this cable to the pole below the crossarms.

When necessary . . . this cable can be taken down and reused.

Reduce outside plant installation cost by using Whitney Blake Sixteen Pair Distribution Cable. Order some today from distributors of Whitney Blake products.

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Model 4986
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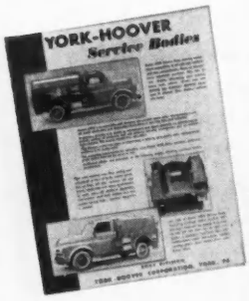

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YORK-HOOVER
PUBLIC UTILITY BODIES

YORK-HOOVER CORPORATION
BODY DIVISION
YORK, PENNSYLVANIA

(Concluded From Page 74)

sations at distances up to a hundred miles. Several of these wire systems linked together can form a communication system of about a thousand miles. They may also be operated in conjunction with a G. I. radio relay system developed at Bell Laboratories.

Recently developed miniaturized parts can be credited with the sharp reduction in size and weight of the new equipment. The earlier, four-channel unit, for example, weighed 475 pounds and occupied twenty cubic feet of space. Complete with its power supply, the new four-channel terminal weighs 178 pounds and occupies only five and a half cubic feet of space. The cable used for the systems can be strung on poles, laid on the ground, or buried.

New Type repeaters have also been designed, to be used at intervals in order to restore the level of the transmitted signals and extend the range of the systems.

Important new features facilitate testing and maintenance while all regular channels are in service. A portable test set provided with the twelve-channel system contains a transistor oscillator, one of the first applications of the Bell Laboratories-invented transistor in quantity-produced military equipment.

Field equipment designed by the Laboratories for the Army is tested for its ability to withstand desert heat and arctic cold. It is subjected to vibration, bounce and shock tests, exposed to 100 per cent humidity and to wind and rain.

The new military carrier systems have recently been placed in production by the Western Electric Co., manufacturing unit of the Bell System.

"Many a live wire would be dead if it weren't for his connections."

ARE THEY LIKELY TO BE THERE IN 1985?

ANSWER: "YES" . . . and future poles will last even longer. During the past 28 years, Taylor-Colquitt's research has added many years to the life and usefulness of poles. And this research will go on . . . to make poles that are lighter, stronger, more economical and more quickly available.

"Make the finest poles" . . . the long established policy of Taylor-Colquitt Company . . . plus our emphasis on research means increasingly better products . . . increasingly greater values for the Telephone Companies that specify Taylor-Colquitt Poles.

Taylor-Colquitt poles are distributed to independent telephone companies exclusively by Automatic Electric Sales Corp., 1033 West Van Buren Street, Chicago 7, Ill.

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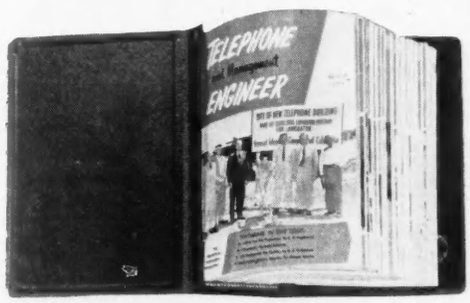

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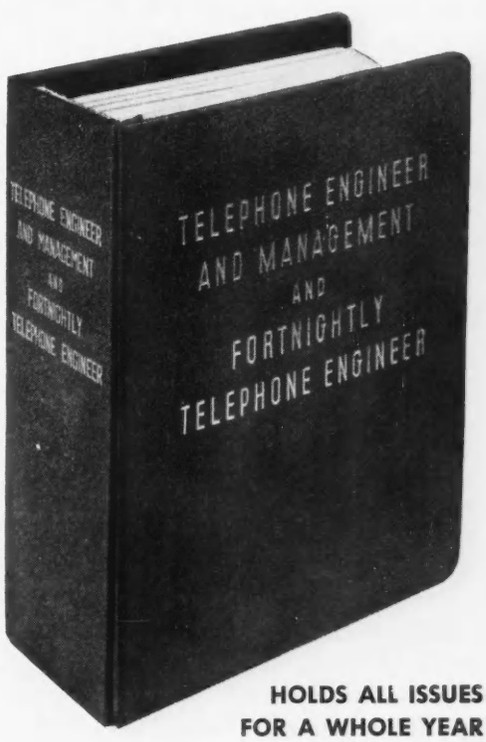
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- **Good cable "adds up"**
- **Terminal saves money**
- **Wire saves poles**

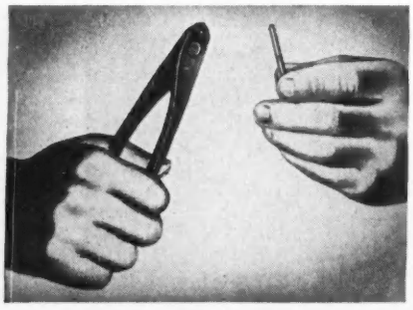
Published every month to help you get the most out of your materials and supplies dollar

The few dollars you spend on *reliable* equipment today will be repaid a hundredfold in lower maintenance costs for years to come. Protect your investment with the double guarantee offered by Stromberg-Carlson. First, leading manufacturers build this equipment, and guarantee it. Second, because we recommend and sell this equipment to the telephone industry, we *also* guarantee its performance!

Splice it fast . . . and it *stays* fast

Here's how to make a quick splice that holds fast, even under the most intense vibration. In fact, your splice will outlast the conductor!

You need two items; a Nicopress sleeve, and the Nicopress tool that is designed especially for use with these sleeves. You simply butt the



This Nicopress 17-2 tool plus this Nicopress sleeve make better pair splices, faster.

bared wire ends together inside the sleeve, and you've got a joint that won't ever pull out! Quick and easy.

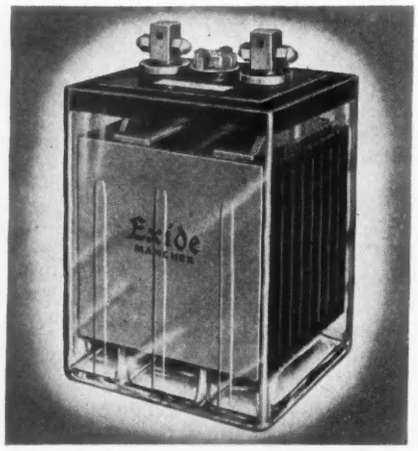
The alloy lining inside the sleeve is harder than either the conductor or the sleeve, and forms a joint that is stronger than the rated breaking strength of the wire itself. **And** it has a high, lasting conductivity.

Also—joints made with Nicopress sleeves are small and neat, so they may be applied on inside wires as well as outdoor lines.

Protect yourself from battery failures

You can use Exide Manchex Batteries for central office and private branch exchange equipment, and be sure you'll get a supply of power when you need it. These batteries have been proven daily in exchanges of every size, and for 67 years Exide Batteries have been serving the telephone industry.

The manchester positive plate with its exclusive button-type construction provides exceptionally

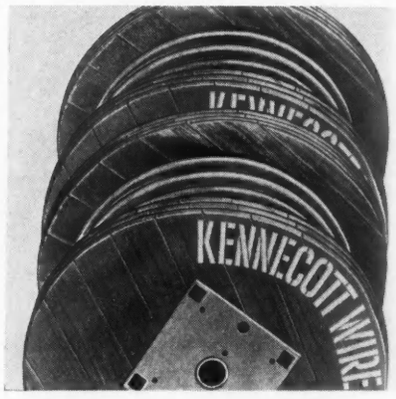


Old age, even high discharge rates, have little effect on this battery.

long life. Latest developments on molded glass jars permit compact space-saving installation.

Heavy terminal posts with copper inserts provide extra conductivity for sustained voltage at high discharge rates. Microporous rubber along with slotted plastic separators, are impervious to chemical and electrical reactions. Plastic spacers assure plate alignment.

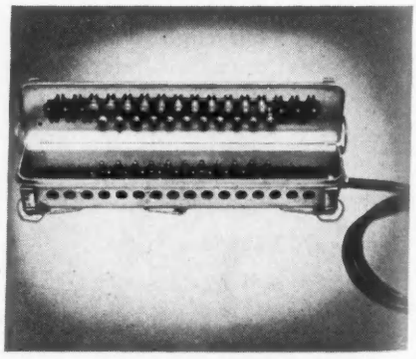
Copper Wire + Paper Insulating Tape + Lead-Antimony Sheath — Accuracy in every detail adds up to—Kennecott Telephone Cable



Accuracy in every manufacturing process is the reason Kennecott Telephone Cable is of high quality. Careful manufacture—attention to the minutest details—result in dependable, long-lasting cable performance.

Designed for economy

That's the way to describe the New "Stranterm" cable terminal, the most flexible terminal ever developed. The Stranterm is primarily strand-mounted, but may be pole-mounted. The stub may be taken out of either end of the terminal



Strand-mounted cable terminal.

and can be either lead or plastic cable. The core section is gas-tight and moistureproof; the terminal may be protected, **even after installation**.

panies. It supplies humless, regulated DC power, with 20-cycle ringing power.

You'll find no moving parts in the RectiRingeR. So naturally, there's nothing to wear out.

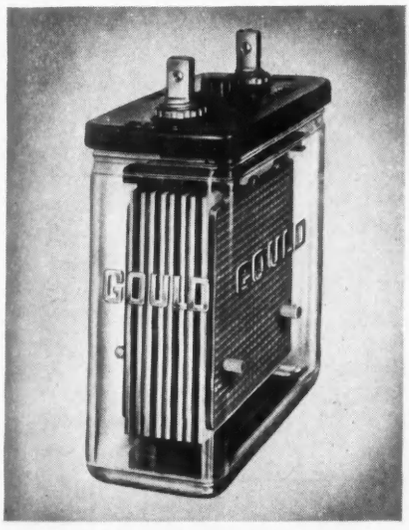
Economical, silent in operation, the RectiRingeR is easy to install. And it has a special relay which **instantly** brings in "stand-by" power in the event of an AC failure.

Thus you are assured not only of quiet, efficient operation during normal conditions, but also of quick, positive action to head off emergency power shortages!

*Reg. U. S. Pat. Off.

Battery has lowest yearly cost

There's an easy way to save money on switchgear, signal and alarm systems or emergency light and power applications.



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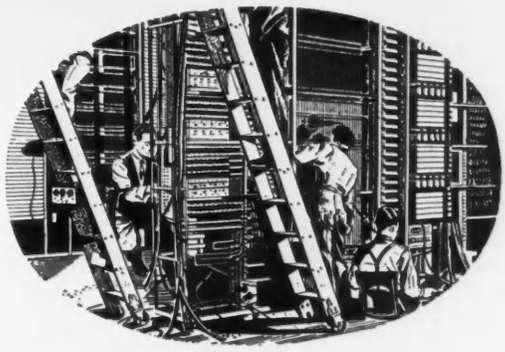


Questions and ANSWERS

Conducted by JAY G. MITCHELL

IN THIS ISSUE, Mr. Mitchell discusses — "A Baffling Case of Telephone Service Improvement"

Question: *— We have experienced considerable trouble with noise on our new metallic line. The stronger the wind blows the more noise there is on the line. The noise sounds exactly the same through the telephones as it does to a person standing along the road listening to the wires vibrate in the open air. When the wind recedes and everything is calm, all of the telephones are* silent, *absolutely no noise or interference at all.*

These telephones are all hooked up straight line ringing, and all subscribers have parallel Neoprene Drop Wire not less than 50 *feet long and all have* 012 *Cook Protectors on the houses. All of the line connections and splices are Nicopress sleeves and drop wire connections on main line are tinned Reliable Test Lugs. This line was originally intended to have divided or semi-selective ringing, but when completed and tested the noise level was so high that it just wasn't practical and each additional telephone that was placed on the line the noise level was increased. As all of these telephones are* 901 *Leich's, I have their Sales Representative working on this problem for me, but as yet we have not discovered the answer. I would appreciate any help you can give us. Stamped and directed envelope for reply direct enclosed.*

Answer: This interesting inquiry was accompanied by a sketch which showed very clearly just how this noisy telephone line was placed with relation to the roads and to two *supply lines*, one of which is designated as a 66,000-volt electric line and one which closely parallels the pole lines of the telephone company which is labeled only R.E.A. Electric Line. When this problem is solved it will be almost obvious what is causing this phenomenon but in order to express any opinion at all it will be necessary to have the answers to a few leading questions which are listed below.

QUESTIONS AND ANSWERS is most interested in this matter because the answer, when and if it can be developed by mail, will doubtless be helpful to other telephone companies that may have similar experiences. This telephone company is asked, therefore, to carefully answer the queries set out below in another letter. These questions are as follows: —

Questions as to the plant of the telephone company: —

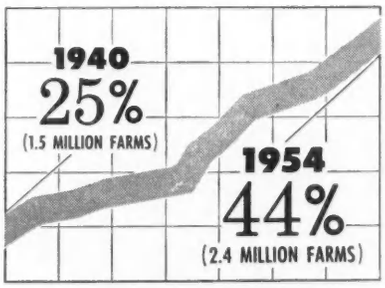
(1) *What type of main exchange ground connection is installed at the Central Office?*

(2) *Is the ground connection from the Main Distributing Frame obtained by a large copper wire which is securely soldered at* both ends, *that is at the Main Distributing Frame and at the ground rods or water pipe. If the ground connection is to the water pipe is the ground clamp in*

Please Turn To Page 81

Boss of a growing business

Farms today are bigger, more mechanized—
and more dependent on telephone service!



U. S. FARMS WITH TELEPHONES
According to U. S. Dept. of Agriculture

The modern farmer knows what every businessman knows—the value of telephone service. That's why farms with telephones are up *59% and nearly a million in number* since 1940—and still climbing! Across the sweep of her rolling farmlands, America's 5,000 Independent Telephone Companies have furnished dependable rural service for generations. Now, moving ahead together...a single dynamic industry...these Independents are modernizing, improving, expanding their facilities wherever there is need. Helping customers and communities grow...by growing with them.

USITA

United States Independent Telephone Association

Pennsylvania Building : Washington, D. C.

good condition and outside *the water meter?*

(3) *Have all the arrester carbon blocks on the Main Distributing Frame been carefully inspected and cleaned?*

(4) *Are all the dielectric separators of the Main Distributing Frame in place and in* good condition?

(5) *Are all jumper wires on the Main Distributing Frame properly soldered in place?*

(6) *Is there any cable in the plant of the telephone company?*

(7) *Where the telephone lines are crossed overhead by the* 66,000 *volt supply transmission circuit are they in open wire?*

(8) *If the answer to question number 7 is "open wire" can cable be readily installed for a* permanent part *of the telephone lead to extend at least* 3 *or* 4 *sections each way from the actual crossing?*

(9) *What height poles are used in the telephone lead at the point where the* 66,000 *volt supply transmission circuit crosses it?*

(10) *What height poles are used in the* 66,000 *volt supply transmission lead where it crosses the telephone lead?*

(11) *Are joint poles used at any point for the telephone wires and the supply circuits?*

Questions as to the plants of the supply circuits: —

(1) *Is the* 66,000 *volt transmission supply circuit two wire, three wire or four wire?*

(2) *Is the* 66,000 *volt transmission supply circuit single phase, or three phase?*

(3) *Is the* 66,000 *volt transmission supply circuit delta or star connected?*

(4) *Is the* 66,000 *volt transmission supply circuit supplying energy to any factories or shops direct?*

(5) *What height of poles are used in the* 66,000 *volt transmission supply circuit?*

(6) *Are there any joint poles used by the telephone company and the* 66,000 *volt transmission supply circuit?*

(7) *How long is the* shortest separation *between the wires of the* 66,000 *volt transmission supply circuit and the wires of the telephone plant?*

(8) *The sketch map shows the* 66,000 *volt transmission supply circuit crossing the telephone lead at an angle of approximately* 45 *degrees. Is this angle as shown correct or is the crossing at a sharper angle, approaching a parallel or a more nearly right angle?*

(9) *Is there a pole in the* 66,000 *volt transmission supply circuit near the point at which it crosses the telephone lead?*

(10) *Is the* 66,000 *volt transmission supply circuit transposed and on what basis?*

(11) *Are wood or steel cross arms used in the* 66,000 *volt transmission supply circuit?*

(12) *Has the company operating the* 66,000 *volt transmission supply circuit been informed of the trouble in the telephone system?*

(13) *Is the R.E.A. supply circuit two wire, three wire or four wire and is it dependent upon a ground connection for its distribution?*

(14) *Is the R.E.A. supply circuit delta or star connected?*

(15) *Is the R.E.A. supply circuit supplying energy to any factories or shops?*

(16) *What height of poles are used in the R.E.A. supply circuit?*

(17) *Are there any joint poles used by the telephone company and the R.E.A. supply circuit?*

(18) *How long is the* shortest separation *between the wires of the R.E.A. supply circuit and the wires of the telephone plant?*

(19) *Do the service drops of the R.E.A. supply circuit run through foliage which also surrounds the service drops of the telephone plant?*

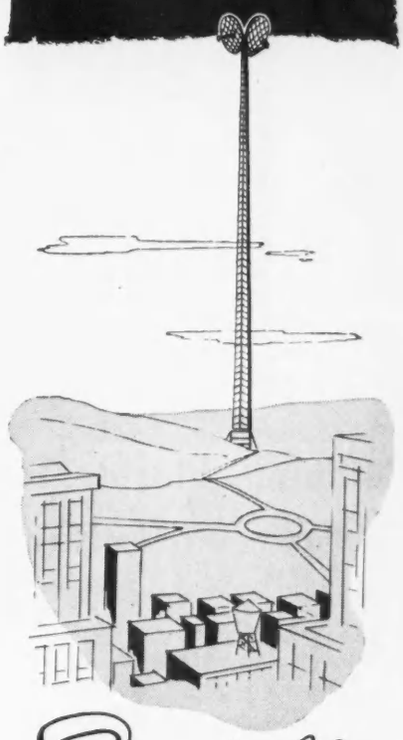
(20) *Are the primary wires of the R.E.A. supply circuit transposed and on what basis?*

(21) *Has the R.E.A. management been apprised of the trouble in the telephone system?*

In answer to these general broad inquiries please supply any collateral information, no matter how unimportant it may appear to be. The reply, when received, will be studied with care and may afford the basis for some helpful suggestions.—***Mitchell***

IF YOU'D like quick help and technical and helpful opinion on some question, a postcard will bring you a reply. Or if you're in a hurry, please send along a stamped self-addressed envelope for immediate reply.

MICROWAVE ANTENNA SYSTEMS?



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THESE FLORIDA ASSOCIATION members attending luncheon celebrating installation of Florida's 1,000,000th telephone are (l. to r.): OTTO WETTSTEIN, III; HUGH C. MacFARLANE; JO POPPLETON, secretary-treasurer; E. L. COX; M. L. BARRE; BLAIR C. STONE; MAX WETTSTEIN; RALPH MANER; CARL D. BROREIN; J. N. JOHNSON, president; J. K. GALLOWAY; C. D. BROREIN, JR., 1st vice president; MRS. ALLEENE DREW CANTEY; MITCHELL N. DREW, 2nd vice president; W. A. BROWN; R. W. SHRINER; E. M. MENENDEZ; and J. L. SHARIT.

Millionth Florida Telephone Installed in Governor LeRoy Collins' Office

On Wednesday, February 2, a telephone was installed in the office of Governor LeRoy Collins, in Tallahassee, Florida. This in itself, although it was a special color, would not be of nation-wide interest except for the fact that this happened to be a very special telephone — THE ONE MILLIONTH in the State of Florida! It symbolized the growth of Florida and the growth of the telephone industry in Florida.

Three-quarters of a century have passed since the first telephone came to Florida and now Florida is the first state in the Southeast to reach 1,000,000 telephones.

The latter half of these million telephones was added in the past six years. The Florida Telephone Association, composed of 23 operating companies in the State, celebrated this momentous milestone in the telephone industry by having its President, J. N. Johnson, present the One Millionth telephone to Governor LeRoy Collins, red in color to harmonize with the leather of his office furniture.

Those present at this ceremony in addition to President Johnson, manager of the Inter County Telephone & Telegraph Company, and Governor Collins were: Blair C. Stone, vice president, Southeastern Telephone Co., Tallahassee; Wilbur C. King, chairman, Florida Railroad & Public Utilities Commission; Earl W. Brown, president, Florida State Chamber of Commerce; and Claude J. Yates, general manager, Southern Bell Telephone & Telegraph Co.

This ceremony was followed by a luncheon attended by about 150 persons, including Florida Railroad and Public Utilities Commission members and staff, State Association members and State and other dignitaries. Representatives from the 23 telephone companies in Florida, composing the Association, were present. Carl D. Brorein, president of Peninsular Telephone Co., second largest Independent company in the United States, and past president of the Florida Telephone Association, served as Master-of-Ceremonies.

Mr. Brorein stated — "that the station development in Florida was on a ratio of one telephone for slightly over three people classified as residents of the State. This conforms approximately to the National average and means on an average more than one telephone for each family. While each family in the State or country does not have telephone service the figures indicate such a wide distribution and use of the telephone that an almost universal voice communication service is rendered over the Nation's telephone system.

"The standard of living of the American public is beneficially affected by this universality of service. It is a great stabilizer to American democracy. Service is not available only to a special class, or at high costs. Telephone service is a common denominator in American living standards, making available current developments, information and news to all alike. It is a democratizing influence in American life worthy of note."

He also pointed out that "the more than doubling of the telephones in service in the State during the past 10 years, in order to reach the 1,000,000th telephone installation had occurred during a period when material, supplies and equipment were not available for normal delivery. Only in less than three of the 10-year periods did material, supplies and equipment approach normal delivery. This makes the rapid and continuous growth in Florida telephone development, and consequent planned expansion, all the more remarkable."

He added that the appreciation and understanding of these facts by Regulatory Authority had been of great assistance in the ability of the telephone industry in the State to keep

abreast of its progress. He foresaw a continuation of this growth and stated that the telephone industry in the State was alert to its obligations and to the need of the State in its social and economic progress for an adequate and satisfactory voice communication service.

The Invocation was given by Rev. Jeffrey Alfriend, Rector, St. John's Episcopal Church.

C. J. Yates, general manager of the Southern Bell Telephone & Telegraph Co. in Florida, extended a welcome to those in attendance at the luncheon on behalf of the state's 13,000 telephone employes. He pointed out that the growth of the telephone system has been proportionate to the economical improvement and population growth of the state. Only 10 nations outside of the United States have more telephones than Florida's million. The United States itself has 56% of the telephones in the world.

"The great progress that has been made in the telephone industry in the United States and in Florida has been under a free enterprise system," he pointed out. He complimented those who have made this progress possible, through the investment of those savings from research and through employment in the field of communication.

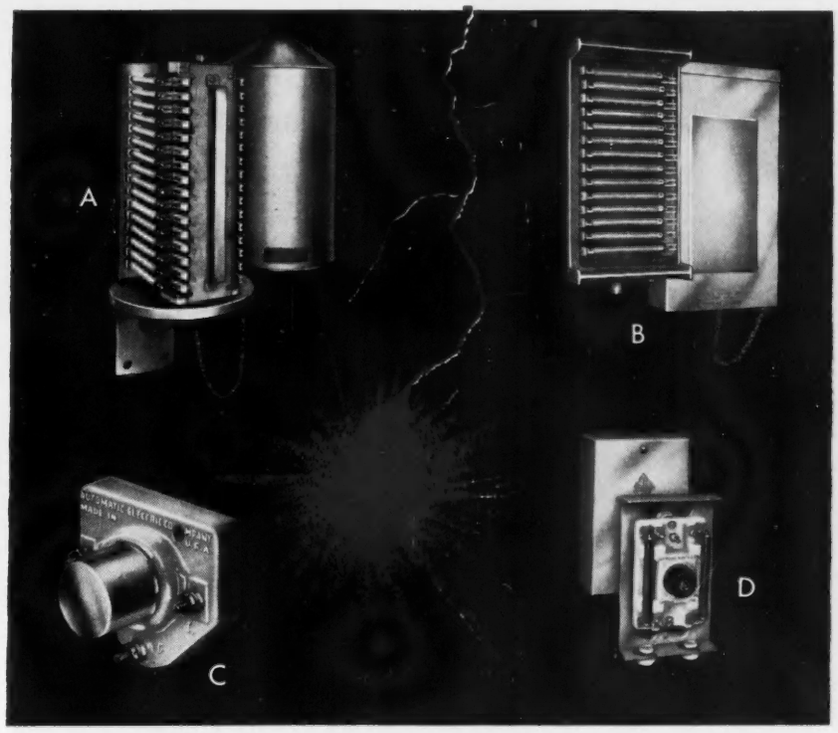
Response to this welcome was made by Erl W. Brown, president, Florida State Chamber of Commerce.

Wilbur C. King, chairman, Florida Railroad & Public Utilities Commission, stated: "It is indeed a great privilege for me to be here today representing the Florida Railroad and Public Utilities Commission members as chairman of that group.

"A month and a half ago, I was honored by the opportunity to attend ceremonies celebrating the conversion to dial telephone operation at St. Augustine given by the Southern Bell Telephone & Telegraph Co. I was impressed then, as I always am when attending events such as that one and one such as we have today, the installation of the one millionth telephone.

"Just a little more than six years ago, Florida had just half a million telephones. The first telephone was installed in Florida in 1884 at Jacksonville. In the year of 1924 there were 100,000 telephones, 1946 the increase was 346,000 and in 1948

Please Turn To Page 85



how do you know they'll handle it?

1. They're Automatic Electric *Heavy-Built*

2. They use Automatic's positive-grounding, self-clearing, "Dollar-Saver" Discharge Block

A. Type 35 Protected Cable Terminal: Extra-strong, cast base and frame and tough, sheet steel hood can take tremendous punishment. Two 3-ampere fuses and two .0055"-gap discharge blocks per pair.

Order Cat. No.	No. Pairs	6', 24-ga. stub.	Shipping Wt., Lbs.
SA-38	11	No	21
SA-39	11	Yes	24
SA-40	16	No	25
SA-41	16	Yes	28
SA-42	26	No	32
SA-43	26	Yes	36

B. Type 40 Protected Cable Terminal: Heavy, reversible cover allows cable to enter from top to bottom. Terminal protects 7 pairs—same fuses and blocks as above. Order SA-34 (no stub; shipping wt., 20 lbs.) or SA-35 (with 6', 24-ga. stub; shipping wt., 24 lbs.)

C. Type 16 Substation Arrester: Two .004"-gap discharge blocks mounted on heavy porcelain base. Order SA-57. Shipping wt., 1 lb.

D. Type 20 Substation Protector: Extra spacing between current-carrying parts gives extra safety. Order SB-91 (with cover; shipping wt., 4¾ lbs.), or SB-88 (no cover; shipping wt., 1¾ lbs.). Both have 7-ampere fuses.

Products of the Telephone Specialty Department of

AUTOMATIC ELECTRIC

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1033 West Van Buren Street, Chicago 7, U. S. A.

construction and maintenance DIGEST

- Real cool sitting
- Profitable noise
- Arms to the rescue
- Ringer wins for you
- Reduce upkeep costs

Published every month to help you get the most out of your materials and supplies dollar

The few dollars you spend on *reliable* equipment today will be repaid a hundredfold in lower maintenance costs for years to come. Protect your investment with the double guarantee offered by Stromberg-Carlson. First, leading manufacturers build this equipment, and guarantee it. Second, because we recommend and sell this equipment to the telephone industry, we *also* guarantee its performance!

Cane-seat chair keeps operators cool, comfortable

Making the operator as comfortable as possible may not strike you as a "maintenance" problem – yet your service is much smoother when the girls are cool and relaxed.

This operator's chair has a cane seat, which is much cooler, cleaner and more comfortable than other types. It retains all the posture advantages for which Sturgis is famed. It is called the Sturgis SC-240.

The posture-curved, well-cushioned backrest is covered in genuine leather.

The exclusive Sturgis "Follow-Flex" feature automatically adjusts to the operator's every movement, supports her restfully all the time, discourages fatigue, keeps her at top efficiency.

Other new and welcome features include a plastic-coated steel foot ring which retains its color, and a handy purse holder, available on request. Six seat heights, all adjustable.

Noise can be money!

Take a business subscriber who has a telephone in some extremely noisy location—and who has finally decided to do something about it. Would you rather have him spend money in building a soundproofed booth—or give you the money as monthly income on a telephone which completely licks the noise problem?

The GAI-PHONE is such an instrument. It has a special transmitter that actually creates a "Zone of Quiet" around the handset—even in a spot as noisy as a boiler factory! It costs the subscriber less than a

booth—and you get the revenue!

Ask us for complete details.

Foil the Terrible 3

Decay, stress, warpage – thes three villains sabotage cross-ar life. You foil these terrible thre when cross-arms are preservativ treated and made from selecte

stock, like the Douglas Fir arms made by American Cross-Arm, Inc.

Pine arms, too, are carefully selected, seasoned and treated for longer life.

Quick deliveries from strategically located stocks. Lower your plant equipment replacement costs, with American Cross-Arms.

How to get humless DC *and* 20-cycle ringing in one unit

In a case that's just barely big enough to carry a husky lineman's lunch, you can get plenty of power.

Both battery eliminator and 20-cycle ringer are combined in one small unit.

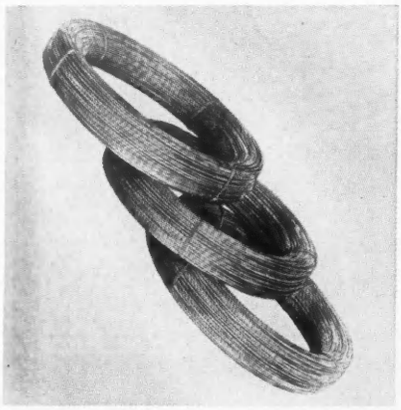
We're talking about the Raytheon RectiRingeR*, which measures only 7⅜" x 12¾" x 6". Here, in one compact little unit, you get both a battery eliminator and 20-cycle ringer.

This unit includes the Recti-FilteR*, the DC power source that has been proven by years of service for Independent telephone com-

either fully or on a pair-by-pair basis by the addition of Cook's "snap-in" Mini-Gap arresters. The 11 and 16 pair core assemblies are interchangeable and replaceable; and drop wire openings are completely sealed by an exclusive grommeting arrangement. Manufactured by Cook Electric Company in 11, 16 and 26 pair sizes, with 3½ foot cable stubs.

Save 10-15 poles per mile

A net saving of 10 to 15 or more pole structures per mile is possible where **Crapo** High-Tensile Telephone Line Wire is used in long-span construction. Fewer pole structures mean substantial savings in time, labor and material, and in maintenance.



Crapo HTL-135 makes possible spans of 350 feet in heavy, 450 feet in medium, and 500 feet in light loading areas. Its practical economy should be considered for new extensions and where old lines are to be replaced.

Crapo HTL-85 (No. 12 B. W. G.) permits spans of 225 feet in heavy, 325 feet in medium, and 375 feet in light loading districts; provides stronger spans on existing pole structures. Both wires possess superior telephonic transmission qualities.

Distributed by

Stromberg-Carlson®

Factory, General Offices:
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Sales Offices: Atlanta 3, Chicago 6, Kansas City 8, Rochester 3, San Francisco 3. Mfg. Branch, Dallas

(Continued From Page 83)

it reached 500,000. There are Bell and 24 Independent telephone companies operating in Florida. In addition, there are two out of state Independent companies furnishing rural telephone service in Florida. Today there are one million telephones which is more than any other state in the Southeast. In fact, there are only 13 states in this nation which have more telephones than Florida. Florida's average telephone per 100 population is higher than the national average. Florida has 33.33 per 100 and the national average 31.27 per 100.

"The Independent companies have pioneered in many telephone innovations and the Bell System in others. Inter County Telephone & Telegraph Co. experienced a net gain in telephones of 3,059, representing a percentage increase of 16.68 of this total net gain in telephones, 1,020 stations were installed outside the base rate areas, meaning that rural development has been tremendous during the year of 1954.

"It is a heartwarming thing to see how these telephone companies have shared their new ways of doing things and how they cooperate in providing topflight service between all points in and out of the state. One of the main contributing factors to the rural and suburban development has been the Florida Railroad and Public Utilities Commission's adoption during 1954 of a new rule whereby gross construction costs for rural projects involving multi-party service are now credited with 60 months exchange service rental instead of the previous 36 months service credit. It has been through the cooperation of the telephone companies and the Commission in trying to develop a rate charge that would be fair to the public and that which would give the utility a fair return on its investment that Florida has had such rapid telephone growth."

Governor LeRoy Collins congratulated the telephone industry for its remarkable development in the State of Florida, particularly during the past 10 years, and expressed the feeling that the telephone industry would continue its leadership in the future growth and development of the State. He also stated that he was glad of his association in the past with the telephone industry as an attorney, and treasured his personal friendships among telephone people. He pointed to the growth in telephone usage in the state as a sound measure of the state's general, economical and industrial development.—***Josephine Poppleton.***

FLORIDA'S 1,000,000TH TELEPHONE: Among those participating in installation of Florida's 1,000,000th telephone were (l. to r.): J. N. JOHNSON, president of the Florida Tel. Assoc.; C. J. YATES, general manager, Southern Bell Tel. & Tel. Co.; Florida's Governor LeROY COLLINS; WILBUR C. KING, chairman, Florida R. R. & Public Utilities Commission; E. W. BROWN, president, Florida State Chamber of Commerce; and BLAIR C. STONE, vice president, Southeastern Tel. & Tel. Co.

Suppliers' NEWS Briefs

A monthly department featuring condensed reports on activities of the manufacturers and suppliers serving the Independent Telephone Industry.

Telephone industry manufacturers and suppliers are invited to send in news releases for use in this department.

Hubbard & Co. Purchases Locke Insulator Co.

HUBBARD & Co., Pittsburgh, Pa., has purchased the pole line hardware operations of the Locke Insulator Co., Baltimore, Md.

James H. Knowles, president of Hubbard, said the purchase represents another step in expansion of the 112-year-old firm's manufacturing and distribution facilities. Hubbard recently completed a $1½ million expansion and modernization program at its three major plants in Pittsburgh, Chicago and Oakland, California.

L-M President Expresses Optimism for 1955

A 6.5 PERCENT increase in shipments over 1954 is this year's outlook for Line Material Co., according to W. D. Kyle, Jr., president.

Speaking to 450 field men and supervisors at the firm's biennial sales engineering conference, he disclosed that the McGraw Electric Co. division just finished its biggest year on record by gaining 9.3 percent more business in 1954 than 1953.

He cited continued acceleration of home building in 1955, predicted by many experts to be the biggest year in construction history, as a major stimulus. "The growing population, easy credit, and increased buying power making this possible also are leading to use of more electric appliances," he pointed out. "It all adds up to greater consumption of electricity."

Referring to delivery and quality as the two most important keys to open customers' doors in this mushrooming market, Kyle said, "The competitiveness of 1954 taught the value of quality, and the present tapering off of utility inventories to the point that buying more closely parallels usage clearly indicates that the orders will go to those who can deliver rapidly from stock."

In going after this business, Kyle explained that Line Material can expect to feel greater benefit this year from a million-dollar plant expansion and improvement program that is almost completed.

"Line Material's 10 plants now have the capacity to meet all customer demands," he declared, "and through a continuing build-up of our field distribution organization we can offer overnight delivery from well-stocked warehouses in 68 locations all over the U. S., Alaska, and Canada."

Electric Storage Battery Creates Research Division

CREATION OF A new research division on the corporate level and expansion of research activities of The Electric Storage Battery Co., Philadelphia, Pa., under direction of Dr. L. E. Lighton, vice president, has been announced by C. F. Norberg, president of the company.

Research for all company divisions will be separated from development engineering and will be carried on

The Footville (Wis.) Telephone Co. recently cut over its new Leich Dial System. DON KRATZ, shown here demonstrating his new switchboard, is president and general manager of the Footville company. He is also a salesman for the Leich Electric Co., manufacturers of the equipment. Footville has 500 subscribers. The switchboard is equipped with 180 lines. It can be expanded to 300 lines by jacking-in additional equipment on the 3 bays. If the exchange should grow beyond 300 lines, additional bays can be added.

announcing

MODEL TCR-12

RAYTHEON **TELELINK**

- Easily and quickly installed. Eliminates costly wire line construction and maintenance.
- Ties in directly with any standard telephone system.
- Handles all telephone functions without modification.
- Trouble-free operation in all weather.
- Long-life circuits with automatic self-tuning after power or maintenance shutdown.
- Range up to 50 miles.
- Designed in cooperation with REA to meet FCC specifications.
- Operates on standard utility power.

A NEW MICROWAVE SYSTEM Engineered to Extend Rural Telephone Service at Low Cost

For the first time in the industry, Raytheon TELELINK provides simple, single-package equipment perfected expressly to expand telephone service in areas where rugged terrain, isolation and severe weather make regular line service too costly, too difficult to install and maintain.

TELELINK in all respects meets the standards of first class telephone service by relaying all regular functions such as dialing, ringing and busy signals without modification of existing equipment.

Expanding your service? Save money on installation and upkeep with Raytheon TELELINK, the practical system tailor-made to provide rural service at its finest.

DETAILED INFORMATION for YOU . . . a new brochure with complete data on Raytheon TELELINK. Write for it.

Address
Dept. 6130 - TE

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Specialists in Microwave for Television and Communications

RAYTHEON MANUFACTURING COMPANY

Equipment Marketing Division

WALTHAM 54, MASSACHUSETTS

Roanwell

CONFIDENCER

Neutralizes Unwanted Sounds

A highly efficient noise-cancelling carbon microphone, the CONFIDENCER serves a double purpose. It affords clearer speech transmission and at the same time neutralizes the gobbledygook of unwanted noises. It has excellent anti-feedback characteristics, and its performance makes it desirable wherever speech-garbling noises exist, and especially in factories, workshops, outdoors.

WRITE FOR DETAILED DATA SHEET

APPROVED FOR USE BY THE BELL TELEPHONE COMPANIES

R/C Roanwell CORPORATION

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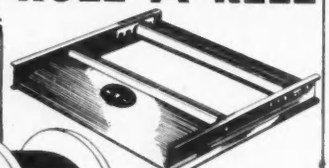
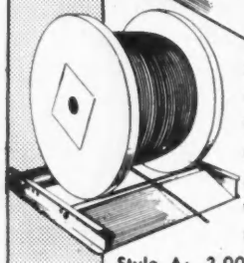
Time to Discard

OLD-FASHIONED WAYS

Jacks . . props . . shores . . horses . . why fool with these obsolete methods of handling reels? DO IT THE MODERN, EFFICIENT WAY! Reel or unreel wire, cable, rope with

ROLL-A-REEL





Simple, strong, easily handled stand for your reels to save time and labor. Adjustable slots for wide variety of reel sizes.

Style A: 2,000 lbs. cap. 37.50
Style B: 4,000 lbs. cap. 75.00
f.o.b. Cincinnati

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ROLL-A-REEL

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How to write a clear, logical technical paper

Step by step this authoritative book tells you how to select the type of report you should use, how to choose the most suitable forms and style, how to organize the material, and how to use figures, tables, and annotations—in short, make the report that is clear and understandable and wins acceptance for its ideas.

WRITING THE TECHNICAL REPORT

By J. Raleigh Nelson

University of Michigan
College of Engineering,
Professor Emeritus of English.

Third Edition, 356 pages, 5½ x 8½, 238 illustrations, $4.50

This practical guidebook takes up scores of specific points in the design and composition of the report and gives you exact directions for the setup of both long- and short-form reports, with numerous examples to guide you. In addition, the book outlines a system for the critical examination of the report to help you make sure it will meet the requirements of those who will read and use it.

Telephone Engineer Publishing Corp.

7720 Sheridan Road Chicago 26, Illinois

in a new center located at the site of the battery manufacturer's Crescentville Plant, in Northeast Philadelphia.

Dr. Lighton's division has been assigned by Norberg to work toward improvement of present lines and methods and to do basic research on future requirements for storage battery power.

Simultaneously Dr. Lighton was appointed chairman of a research committee to review, determine action and assign priorities to research projects coming from any of the company's divisions and subsidiaries. Members of the committee are the directors of engineering of the automotive and industrial divisions. Norberg is a member of the committee ex officio.

Dr. Lighton has been vice president in charge of engineering of The Electric Storage Battery Co. since 1945. He joined the company in 1920 as a sales engineer in the Detroit, Mich., branch and was transferred to Philadelphia in 1925 as manager of automotive manufacturers sales. In 1935 he was moved to the engineering department and in 1940 became assistant manager, advancing to engineering manager later that year.

Born in Williamsport, Pa., Dr. Lighton was graduated from Bucknell University in 1920 and last year received from Bucknell the honorary degree of Doctor of Science. He interrupted his education to enlist in the U. S. Army in 1917 and served in France with the Ambulance Corps until 1919. He holds the French Croix de Guerre. In World War II Dr. Lighton served with the U. S. Technical Mission in Europe. He received a certificate of commendation from the Bureau of Ships, U. S. Navy, and an award from the Navy Ordnance Development Division for his battery development work. He holds a number of patents relating to storage batteries.

Dr. Lighton is a member of Society of Automotive Engineers, American Society of Naval Engineers, American Physical Society, American Standards Association, Faraday Society, American Ordnance Association, Association of American Battery Manufacturers, The Electrochemical Society, Franklin Institute of Philadelphia and American Institute of Physics. He also is a member of

Exide Quarter Century Club, Exide Military Service League and Delta Sigma fraternity.

Stromberg-Carlson Advances William A. Rockwood

JOHN H. VOSS, vice president in charge of the telephone division, Stromberg-Carlson Co., Rochester, N. Y., has announced the appointment of William A. Rockwood to the position of assistant to the vice president in charge of the telephone division.

Mr. Rockwood was graduated from Yale University in 1939 with a B.A. degree. He started at Stromberg-Carlson in 1941 in the credit department, and served in the U. S. Army from February, 1942 until March, 1946, advancing to the rank of Captain in the Infantry, with combat duty in France and Germany. Returning to Stromberg-Carlson after the war, he became office and credit manager of the company's Chicago branch office in 1947, and returned to the Rochester headquarters in May, 1951 as staff assistant in the telephone division.

W. A. ROCKWOOD

Mr. Rockwood is an active member of the Rochester Chamber of Commerce, American Management Association, and the University Club.

Fred Brown of Copperweld Killed In Accident

FRED H. BROWN, of Copperweld Steel Company's Wire & Cable Division, was killed in an auto accident during a storm on February 11. He was district sales manager, operating out of Richmond, Va.

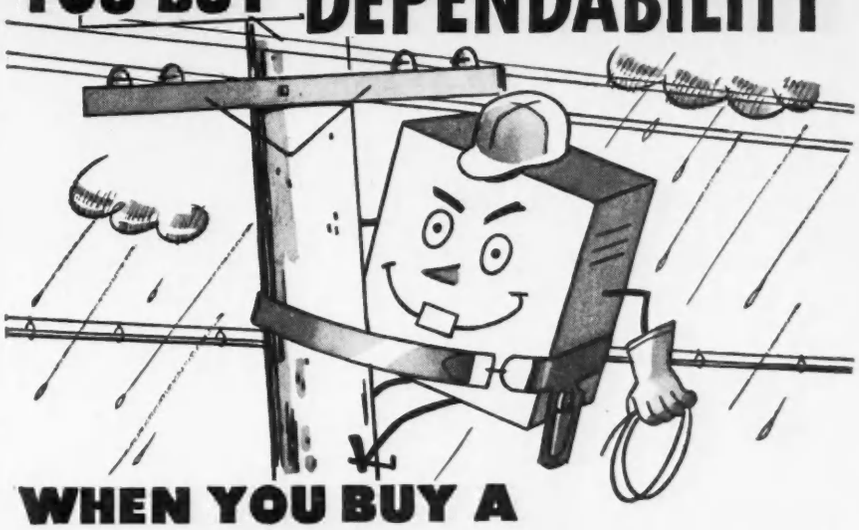
His many years spent serving the power, communication and railroad industries in the East made Mr. Brown a host of friends who will be sorry to learn of his untimely death.

George Billock Joins Hubbard & Co.

GEORGE D. BILLOCK has joined Hubbard & Co., Pittsburgh, Pa., as vice president and treasurer. Mr. Billock formerly was associated with Latrobe Steel Co. as assistant treasurer.

A native of Pttsburgh, Mr. Billock is a graduate of the University of

YOU BUY DEPENDABILITY



WHEN YOU BUY A

RAYTHEON RECTICHARGER

(BATTERY CHARGER)

Dependability is the number one requirement of equipment for the Telephone Industry.

RAYTHEON ENGINEERING REPORT

SUBJECT: Oldest RectiChargeR

Careful testing and inspection of this unit reveals:

1. Electrical qualities in no way impaired (see chart).
2. A noticeable lack of rust or corrosion on chassis, hardware and components.
3. Original paint shows no sign of deterioration.
4. No evidence of embrittlement or cracking in varnish on magnetic components.
5. All hardware sound and secure.
6. Cable firm and unbroken.
7. Lacing intact with all wiring firmly in original position.
8. All soldered joints secure and strong.

(Signed) George L. Blais
ENGINEERING DEPT.

The dependability of Raytheon RectiChargeRs is amply demonstrated by the service records of units now in use. A typical example is shown in the Engineering Report at the right. And there's no reason why the "old" RectiChargeR described in the report can't go on giving the same faithful service for many more years.

It's no accident that Raytheon RectiChargeRs are setting performance records. Every detail of electrical and mechanical design has been carefully worked out with dependability as the guiding principle.

You get dependability automatically when you buy a Raytheon RectiChargeR, just as you get fully automatic battery charging — with constant voltage output over the complete load range regardless of input change — without under or overcharging.

RAYTHEON
MANUFACTURING COMPANY
EQUIPMENT SALES DIVISION
DEPT. 6120-TE, WALTHAM 54, MASSACHUSETTS
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INTERNATIONAL OPERATIONS: 589 FIFTH AVE., NEW YORK CITY

RAYTHEON PRODUCTS INCLUDE: RectiChargeR* battery chargers; RectiFilteR* battery eliminators; Voltage stabilizers (regulators); Transformers; Tubes and other electronic equipment.

*Reg. U. S. Pat. Off.

Specify Raytheon RectiChargeRs and RectiFilteRs for completely dependable Telephone service. Your supplier offers a complete line for all requirements. Ask him for details or write direct.

It's the "Cat's Meow"

For ELIMINATING Service Calls!

Lorain HOWLER

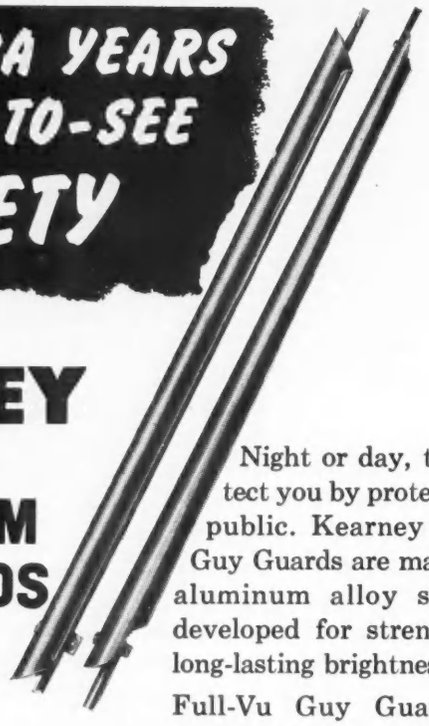
You wouldn't think a cat's "meow" could decrease your service calls, but the Lorain Howler, which produces a signal tone very similar to a cat's "meow", does just that! Should your subscriber leave his receiver off the hook, the Lorain Howler will start its "meow" and will continue until the subscriber locates the source of the noise and replaces the receiver, restoring the line to service.

WRITE FOR BULLETIN 167

LORAIN PRODUCTS CORPORATION
1122 F ST. • LORAIN, OHIO

FOR EXTRA YEARS OF EASY-TO-SEE SAFETY

INSTALL KEARNEY FULL-VU ALUMINUM GUY GUARDS



Night or day, they protect you by protecting the public. Kearney Full-Vu Guy Guards are made of an aluminum alloy specially developed for strength and long-lasting brightness.

Full-Vu Guy Guards are available in a complete line of full-round and half-round seven and eight foot lengths.

-228

Specify KEARNEY PRODUCTS

JAMES R. KEARNEY CORP.
4224-42 CLAYTON AVE.
ST. LOUIS 10, MO.

For Better Construction - For Safer Maintenance

Pittsburgh. He attended Duquesne University Law School. Prior to joining Latrobe Steel Co. in 1946, he was assistant to the controller of National Steel Corp.

Mr. Billock is a certified public accountant and is a member of the Pennsylvania Institute of CPA's, Controllers' Institute of America, American Institute of Accounts, and the National Association of Cost Accountants.

Fred Van Almelo Retires from Stromberg-Carlson

FRED K. VAN ALMELO retired February 1, following 11 years of service at the Stromberg-Carlson Co., Rochester, N. Y., according to John H. Voss, vice president in charge of the telephone division.

Mr. Van Almelo was born in almelo, Netherlands, and educated at Delft Polytechnic University, where he graduated with a degree in mechanical engineering (M.E.). Prior to joining Stromberg-Carlson Co. in 1944, he was associated with the Consolidated Metal Working Co., Albany, N. Y. At Stromberg-Carlson he has been a supervising design engineer in the apparatus engineering section of the telephone division.

F. K. VAN ALMELO

Mr. Van Almelo is well known for his active church work with special interests in youth and adult education. His hobbies include woodworking — reproductions of early American wooden ware, ceramics, and oil-painting, with unusual talents in landscapes. He lives with his wife at 60 Summit Street, Fairport, N. Y.

Line Material Establishes New Branch Offices

R. G. WHEATON, vice president, marketing and sales, has announced the recent openings of new Line Material Co. sales offices and warehouses in Nashville, Tenn., Seattle, Wash., and San Francisco, Calif.

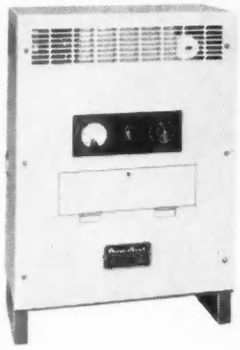
The Nashville branch office and warehouse, having a total space of 7800 square feet, is located at 1503 Laurel St. Marketing activities from the new facility will cover eastern and central Tennessee. B. E. Adair, L-M field engineer, will make it his

(Please Turn To Page 94)

Smoother, quieter power —on the way!

As each new development in Automatic's power equipment reaches the laboratory testing stage, its output is checked both by oscilloscope and by actual listening. This is just one step in Automatic's constant research, aimed at bringing you smoother, quieter, more dependable power. It's one decisive reason why so many successful companies insist on . . .

Automatic's Power Equipment



Convotrol Battery Charger—A constant-voltage, fully-automatic 50-volt charger (for 22 to 26 cells). Three sizes: 3, 6, 12 amperes. Operates on 115 or 230 volts, 1-phase AC 50 to 60 cycles. Two or more Convotrols can be paralleled for greater output. Ask for Circular TM1623.

Type 46 Battery Charger—A constant-current 50-volt charger (for 22 to 26 cells). Three sizes: 3, 6, 12 amperes. Operates on 115 or 230 volts, 1-phase AC, 50 to 60 cycles. Ask for Circular TM1624

Type 48 Battery Eliminator—Fully automatic. Supplies noiseless DC for telephone and signaling equipment. Four sizes: 3 amperes, 25 volts; 6 amperes, 25 volts; 3 amperes, 50 volts; 6 amperes, 50 volts. Operates on 115 volts, 1-phase AC, 50 to 60 cycles. Ask for Circular TM1708.

Type 45 Battery Eliminator—For automatic, manual, or pushbutton intercommunicating system requiring 12 volts noiseless DC at 1.5 amperes. Operates on 115 volts, 1-phase AC, 50 to 60 cycles. Ask for Circular TM1689.

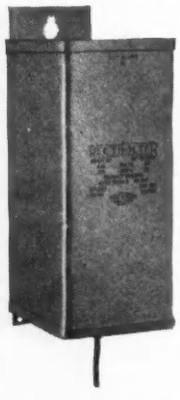
Type 44 Battery Charger—For 1, 2, or 3 cells. Delivers 0.01 to 1.5 amperes. Operates on 115 or 230 volts, 1-phase AC, 50 to 60 cycles. Ask for Circular TM1689.

Type 85 Battery Eliminator—Provides 150 volts noiseless DC (30 milliamperes) and 15-volt tap for test desks. Operates on 115 volts, 1-phase AC, 50 to 60 cycles. Ask for Circular TM1731.

Type 85-T Battery Eliminator—For Toll Test Boards. Ask for Circular TM1805.

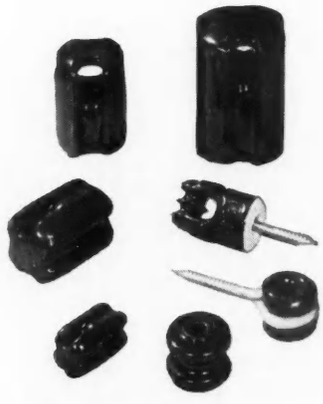
To get full facts, write *Automatic Electric Sales Corporation, 1033 W. Van Burean St., Chicago 7, or call HA* 1-4300

AUTOMATIC ELECTRIC



Improve Service, Reduce Costs and Eliminate Power Supply Problems with RECTIFILTER. Eliminates installation of storage batteries . . . operates one or more P.B.X.'s, or one or more Key equipments from an AC source. RAYTHEON MFG. CO.

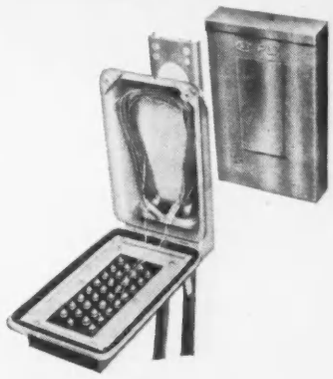
Prolongs Life of Drop Wire by permitting free swinging at the support. Type "PS" Drop Wire Clamps (shown) automatically tighten under load, assuring a firm grip without damaging insulation. Made by RELIABLE ELECTRIC COMPANY.



Uniform High Quality is the characteristic of PORCELAIN PRODUCTS, INC., insulators and wire holders . . . all produced to exacting specifications and made to guarantee top quality in insulation and top performance for telephone installation.

PLP Tangent Support Line Guards (shown here) for self-supporting telephone cable protect while firmly holding cable in an elongated grip in which the unit pressure is small because of large area of gripping surface. PREFORMED LINE PRODUCTS CO.

Exchange Area Cable for aerial and duct use. TELECABLE* has polyethylene insulation and sheath, excellent transmission qualities. 202 Pair and smaller. Approved by REA. *TELECABLE is a trademark of WHITNEY BLAKE COMPANY.



Designed for Maintenance-Free Operation —The P-L-X Cable Terminal requires no stubbing, splicing nor potting. Only plastic loop cable terminal that can be protected. When ordering, specify cable size (6 thru 51 pair). COOK ELECTRIC COMPANY.

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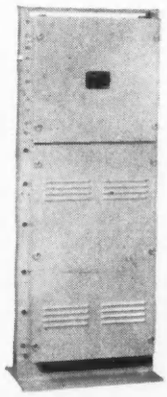

H-5 Subcycle for Harmonic Ringing Frequencies. Produces all frequencies in harmonic series, 16-2/3, 25, 33-1/3, 50 and 66-2/3 cycles. Ringing frequencies locked to AC line frequency. Maintenance-free operation. LORAIN PRODUCTS CORPORATION.

The Time-Tested Steel Strand. A ductile, adherent zinc coating applied by the famous Crapo Galvanizing Process, provides lasting protection against corrosion in INDIANA STEEL & WIRE CO's Crapo Steel Strand. Minimum maintenance expense.

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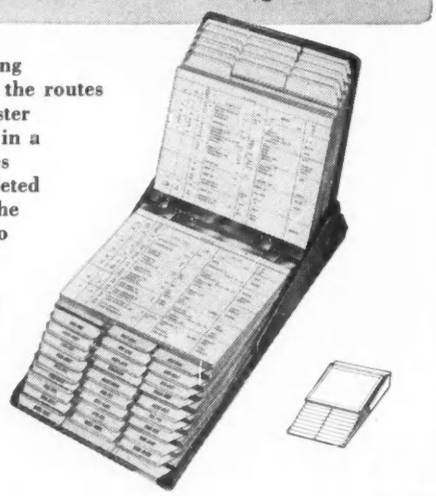

One operator with her individual Routing Multi-Card file, containing over 95% of the routes for originating traffic, can do the job faster and more efficiently.—No need to bring in a second operator.—No guess work; routes are before her—*visible.*—Calls are completed quicker.—More routes are available to the Central Office force.—Less "121" calls go over the LD circuits. With Multi-Card Bulletin Holders, each operator can determine over 95% of her routings and rates, and immediately compute charges on Coin Box calls or where there has been a request for T & C. By not trunking to Rate & Route operator, less operator time is needed at these positions.

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(Continued From Page 90)

headquarters, while office and warehouse activities will be handled by E. Bynum, branch manager.

The office and warehouse in Seattle, located at 1220 W. Nickerson St., occupies a total of 12,000 square feet of space. Headquartering here are A. G. Simpson and P. B. Holden, field engineers, while C. A. Paynter is responsible for branch manager duties. The new facilities will serve western Washington.

In South San Francisco, the new office and warehouse is at 360 Shaw Road. It has 17,000 square feet of space. Making their offices here are W. T. Neikirk, district manager, E. M. Stites, field engineer, H. T. Zamzow, apparatus engineer, B. V. Kunde, lighting engineer, H. C. Puls, fibre products engineer, and T. Frost, branch manager.

Electric Storage Battery Advances R. E. Wright

R. E. WRIGHT has been named director of industrial and public relations of The Electric Storage Battery Co., manufacturer of Exide, Grant and Willard batteries. In addition to the company's industrial relations, which he has directed since 1945, Wright now is responsible for all corporate public relations policies and programs, excepting stockholder relations.

R. E. WRIGHT

Wright, a native of Middletown, Ohio, attended George School, near Philadelphia, and was graduated from the University of Michigan and the Detroit College of Law. In 1926 he became assistant manager of industrial and public relations at U. S. Rubber Company's Detroit plant. In 1941 he entered the U. S. Navy and was labor relations officer of the Fifth Naval District throughout World War II.

Wright was employed by The Electric Storage Battery Co. as industrial relations director upon his release by the Navy. He has been active in two projects of the President of the United States — Committee for Employment of the Handicapped (1951) and Conference for Occupational Safety (1953).

He is a member of Association of American Battery Manufacturers and

for six years headed its industrial relations committee; past chairman of industrial relations committee of the Chamber of Commerce of Greater Philadelphia and past general chairman of the Chamber's annual conference on industrial relations. He was president of the Industrial Relations Association of Philadelphia in 1951 and 1952.

C&D Batteries Forms Export Division

C&D BATTERIES, INC., Conshohocken, Pa., has formed an export division under the supervision of Ballagh-Thrall, Inc., an export sales management firm. In making the announcement, S. W. Gibb, vice-president in charge of sales for C&D, said the move was advisable in view of the increasing demand for C&D products from foreign markets.

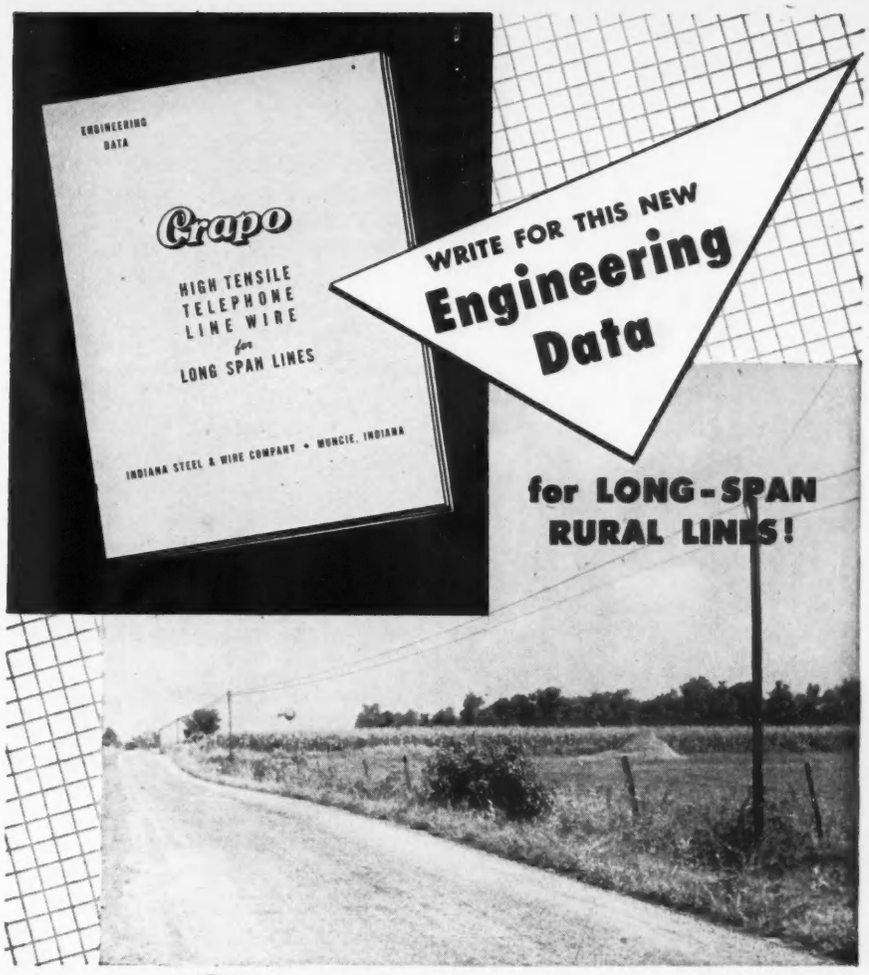
The new division will be located at 1010 Schaff Building, Philadelphia 2, Pa., and Paul Marshall of Ballagh-Thrall will be in charge of the operation. The formation of the new division follows closely on the heels of an expansion program at C&D which included the opening of a new plant in November of last year.

Du Mont Appoints New Eastern Distributor

SALES AND SERVICE of Du Mont two-way mobile radio equipment have been expanded to cover central and southern New Jersey with the appointment of the newly organized Arnolt Communications Service, Metuchen, N. J., as distributor and sales representative in those areas. The announcement was made jointly by C. J. Harrison, national sales manager of the Mobile Communications Department, Allen B. Du Mont Laboratories, Inc., Clifton, N. J., and Fred M. Arnolt, Jr., president of Arnolt Brothers, Inc., Metuchen, parent company of the Arnolt Communications Service organization.

The Arnolt Brothers company is one of the largest and best known construction and contracting firms in the New Jersey area. Its subsidiary, Arnolt Communications Service, is currently installing Du Mont two-way radio equipment on trucks and construction machinery used by Arnolt Brothers or rented by the company to other New Jersey area contractors.

The service organization will also distribute Du Mont mobile radios,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For Medium Long Spans

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● FEWER pole structures are required where *Crapo* High-Tensile Line Wire is used in building rural telephone lines. This means substantial savings in time, labor and material. There are fewer holes to dig and poles to set, less material to be handled, installed and connected — all of which contribute to lower overall construction costs.

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base stations and accessory equipment to other independent construction contractors and equipment rental firms, to police and fire departments, ambulance services, highway control and civilian defense units as well as to local dealers in the mobile two-way radio business.

In addition, the Arnolt radio subsidiary is instituting a service which is believed to be unique in the mobile field. Key transmitter sites on mountains and hills have been leased for installation of high-power Du Mont base stations. Users of the Arnolt service will therefore be able to operate their base stations located at dominant sites which will provide strong-signal interconnections between mobile units and home offices even when vehicles are in distant parts of the state.

Reilly Tar Promotes Rudolph A. Fenoglio

THOMAS E. REILLY, vice-president of the Reilly Tar & Chemical Corp., recently announced the promotion of Rudolph A. Fenoglio to the position of assistant plant manager of the Maywood, Ind., multiple plant operation. A graduate of Purdue University, Mr. Fenoglio is a member of the Indiana Professional Engineers Society and served as a Captain in the Artillery during World War II. Prior to this promotion, Mr. Fenoglio was a member of the Engineering Department of Reilly for nine years during which time he was in complete charge of the construction of the Lone Star, Texas, plant. In his new position, Mr. Fenoglio will remain in Indianapolis.

R. A. FENOGLIO

Survey Indicates Broad Market For Aluminized Wires

POTENTIAL MARKETS for hot-dip aluminum coated iron and steel wires are probably wider in scope than for any other wires currently manufactured with metallic coatings, according to E. B. Brant, product manager, Page Steel & Wire Division, American Chain & Cable Co., Monessen, Pa.

The Page Division has just completed a survey of some 20 odd markets where it is expected its new cor-

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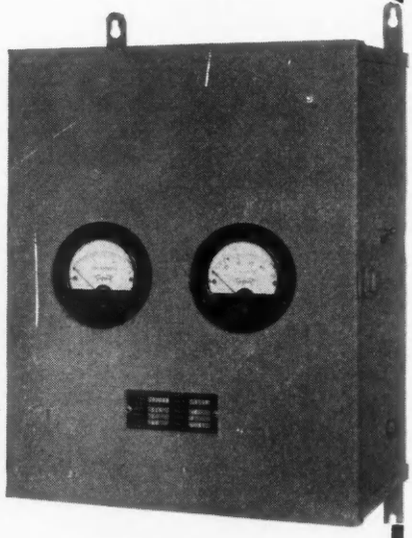

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rosion resistant wires, marketed under the name of "ACCO ALUMINIZED," will be used in volume as a replacement for galvanized wires. Tests show resistance to weathering in industrial and rural atmospheres to be two to six times as long as galvanized of equal coating thickness. Large scale production, planned for 1955, is expected to make the price competitive.

"Hot-dip aluminum coatings are not only outstanding in their ability to resist corrosion on wires used for general mechanical application," Mr. Brant said, "but also in many of the highly specialized applications in the communications and electric utility fields. These coatings have exhibited definite superiority in many heat-resisting applications as well as in applications requiring corrosion resistance and high operating temperatures."

"In addition, tests show them to be of value in deoxidizing weld deposits and getting rid of gases with resultant freedom of porosity. Markets for chain link fence, used for property protection, are particularly impressive. While not intended as a price electrical conductor, aluminized wire offers a definite increase in electric conductivity over galvanized and added life under conditions of high humidity. These properties are expected to make the Page development particularly attractive for use in telephone and telegraph systems, and for electrified railroads and railway signal systems. The wire is also advantageous for electric power transmission and distribution systems as it eliminates one metal (zinc), permitting the stranding of aluminum wires over aluminum coated steel wire cores."

Mr. Brant also disclosed that the aircraft industry is testing the wire for use as a high strength cable; also for lock wire and safety wire. Some other promising outlets are belt conveyor wire that must withstand high temperatures, barbed wire, insect screen wire, cable grip wire, and rope and spring wire.

Aluminized strand (3-wire and 7-wire) is now available in Common, Siemens-Martin, High Strength and Utilty grades. Coatings are comparable in thickness to that of Grade A galvanizing and physical properties conform to ASTM Specification A-122-52-T for galvanized strand.

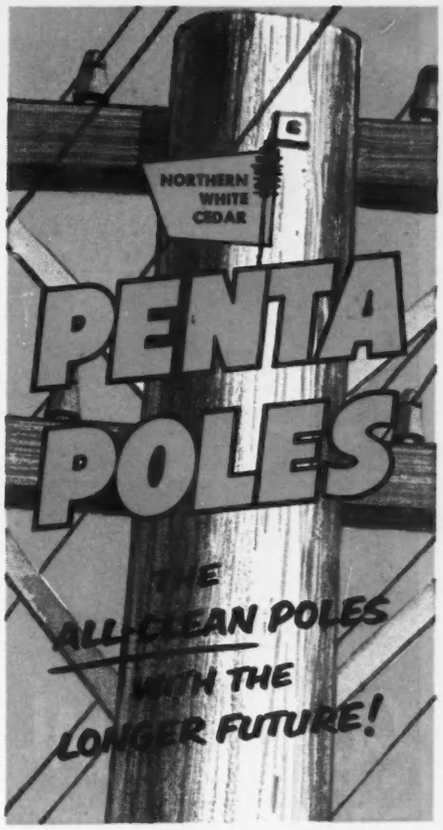
Announcement of the appointment of KARL BING as sales manager, Special Products Division, has just been made by J. A. McIlnay, vice president for sales, Ray-O-Vac Co., Madison, Wis. Since joining the organization in 1950, Bing has been successively market analyst, district manager, member of the Merchandising Plan Board, and manager, National Chain Sales. In his new position he succeeds John Tennant, who has taken a new assignment in Ray-O-Vac International.

American Chain & Cable Company was issued U. S. Patent Numbers 2,686,354 and 2,686,355 on August 17, 1954, covering "Lundin Process for Coating and Uniting Metal Shapes with Aluminum" and "Lundin Process for Coating Metals with Aluminum." A large number of foreign patents have already been issued corresponding to these patents and applications are still pending on variations of this process.

Wall Manufacturing Purchases Hommell Corp.

THE OWNERS OF Wall Manufacturing Co., maker of nationally known soldering products for industrial and general use, have announced the purchase of the Hommel Corp. and all its assets. Formerly known as the All Metal Bit Co., the Hommel Corp., Greensburg, Pa., manufacturers a quality line of screw driver bits, sleeves and finders. These products are now used by hundreds of production lines in the power tool industry.

The Hommel machinery, equipment and inventory will be transferred to the Wall plant in Grove City, Pa. Wall products and Hommel products will be integrated under present Wall management and super-



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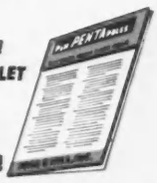

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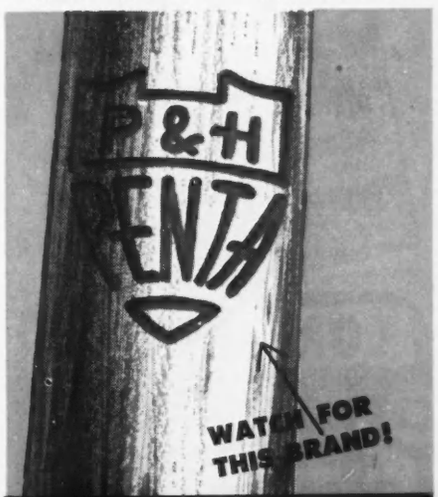

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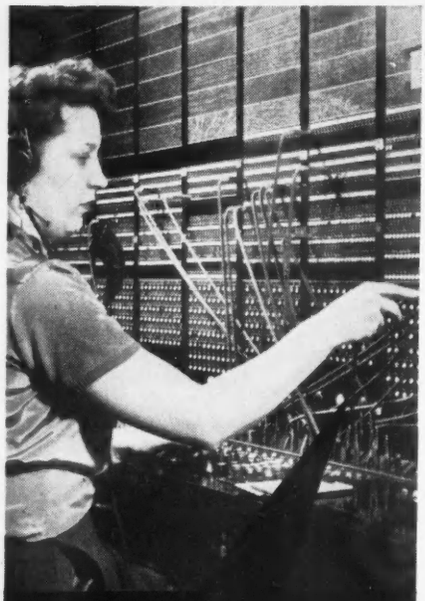

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(Continued From Page 97)

vision, though Wall Manufacturing Co. and its new affiliate will continue to operate as individual organizations. Following this integration, the company plans to hire additional personnel, according to H. H. Sherman, vice president in charge of production.

National Electric Announces Organization Changes

DIRECTORS OF National Electric Products Corp., Pittsburgh, Pa., have elected the firm's founder, W. C. Robinson, honorary chairman of the board. At the same time, the directors elected A. L. Robinson, chairman of the board and W. C. Robinson, Jr., to succeed his father as president.

The senior Mr. Robinson is a pioneer in the electrical construction field. When he founded the company 50 years ago the entire electrical industry was in its infancy. Recognizing the need for grounding electrical distribution systems to make them safer, Mr. Robinson developed and began manufacturing metallic raceways, conduit and fittings eight years before grounded systems were made mandatory by Underwriters Laboratories.

In the half century since Mr. Robinson founded the firm, it has experienced impressive growth both in corporate size and product diversification. Today, it is the largest U. S. manufacturer of electrical wiring systems. The main plant is in Ambridge, Pa., with other plants in Torrance, Cal., and Elizabeth, N. J.

A native of Pittsburgh, the senior Mr. Robinson received his education at Shadyside Academy and Little Washington Academy. He began his business career with the Robinson-Rea Manufacturing Co., producers of rolling mill machinery and engines. In 1905, with several associates he founded in Ambridge, the National Metal Molding Co., forerunner of National Electric Products Corp., which was formed in 1928.

Mr. Robinson is a director of Jones & Laughlin Steel Corp., Mellon National Bank & Trust Co.; Westinghouse Electric Corp., and Western Allegheny Railroad. He was one of the organizers of the Electrical Manufacturers Club and is a charter member of that group.

The new board chairman, A. L.

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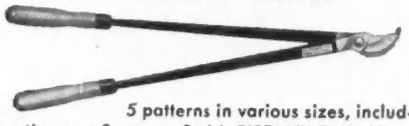

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No. 11 "Telephone" tree pruner head, with 1" capacity and No. 12 with 1½" capacity are the finest available. Also rugged poles of selected spruce with seamless aluminum joints.

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No. 20 saw head has 16" needle point teeth, is adjustable to 3 positions. Uses standard poles.

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Robinson, is one of the founder's two sons. He started with the company shortly after he was graduated from Yale University in 1926. Until his election as board chairman, he had served as a director, vice president and secretary. He is a director of Peoples First National Bank & Trust Co.

W. C. Robinson, Jr., new president, also is a graduate of Yale University. He joined the company in 1929 and has been a director and vice president for several years. During World War II, he served with the U. S. Navy. He is a director of Fidelity Trust Co.

Other action taken by the board of directors included election of A. L. Robinson, Jr., as a director and secretary of the corporation. F. J. Kennedy, vice president in charge of engineering, was given the additional title, assistant to the president. Other officers and directors are G. L. Wanamaker, vice president, production; R. C. Bennett, Jr., vice president, sales; J. Sterling Davis, treasurer, and J. W. Schuck, assistant treasurer.

James M. Houston, attorney with the firm of Rose, Rose & Houston, was elected a new director of the company.

Stromberg-Carlson Advances Kenneth J. Terry

KENNETH J. TERRY, member of the national sales engineering department at the Stromberg-Carlson Co., Rochester, N. Y., has been transferred to the company's San Francisco office to assume the duties of sales engineer for that branch, according to T. C. Thompson, sales manager of the Telephone Division.

Mr. Terry, a native Rochesterian, joined Stromberg-Carlson in 1942 after education in Ontario, New York, Cornell University, and Lynchburg College in Virginia. Before becoming a sales engineer in August of 1954, he worked in various departments in the Telephone Division, including inspection, installation, and specifications. His work at Stromberg-Carlson was interrupted during 1943-46 when he was a member of the U. S. Air Force, serving as a lieutenant with the Troop Carrier Command.

K. J. TERRY

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LOUIS J. RICHTER, senior engineer at Cook Research Laboratories, Division of Cook Electric Co., Skokie, Ill., has been awarded "Certificate of Achievement" by the Joint Task Force Seven. This award is for meritorious service in supervising the installation of Special Aircraft Instrumentation equipment in B-47 aircraft at Vandalia, Ohio, and also in the maintenance of the equipment in connection with atomic energy tests at Eniwetok-Bikini, Operation Castle 1954.

Automatic Electric Announces Executive Personnel Changes

THE AUTOMATIC ELECTRIC Group has announced that J. W. Shipman, formerly of its New York City offices, has been reassigned to the general offices in Chicago where he has been appointed commercial manager of Automatic Electric Co., Automatic Sales Corp., and International Automatic Electric Corp.

J. W. SHIPMAN

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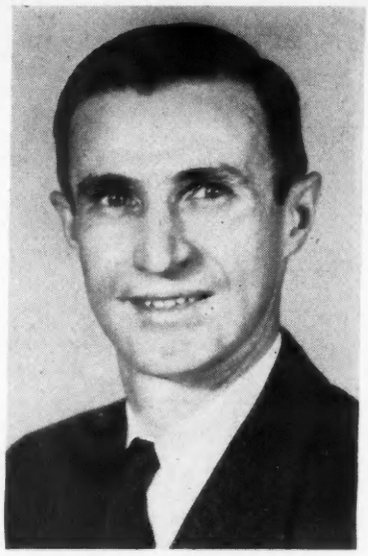

R. W. McMICHAEL

In his new position, Mr. Shipman will be responsible for all the usual commercial activities of these three companies. In addition he will become the Automatic Electric representative in the Telephone Equipment Manufacturers Section of NEMA, and a member of the NEMA Import Committee.

In assuming the foregoing positions, Mr. Shipman succeeds R. W. McMichael, who is relinquishing certain of these duties to devote more time to the expanding activities and operations of other affiliates of Automatic Electric Co.

Mr. McMichael becomes general manager of the export sales company, International Automatic Electric Corp. As Liaison Manager, Affiliates, he will continue to coordinate activities of affiliated manufacturing and service companies in the United States and abroad.

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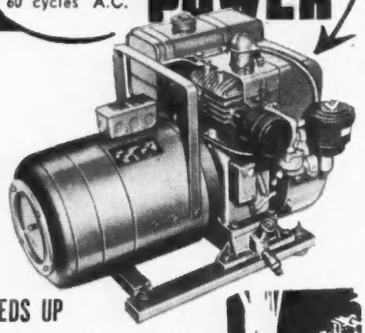

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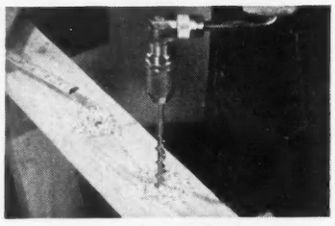
NEW IRWIN 2-WAY "Hex" Shank Wood Bit

sectional view of 2-Way "Hex" Shank



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NEW PRODUCTS' SHOWCASE

For complete data on New Products and Services described in this department, fill in Coupon on page 105.

Portable Earth Borer

A PORTABLE mechanical earth borer has been developed by the *J. H. Holan Corp., 4100 West 150 St., Dept. (TE&M) Cleveland, Ohio,* in answer to increasing demands from telephone companies throughout the nation.

In announcing the digger, J. Howard Holan, president, cited a definite trend toward mechanization of field equipment and pointed to the company's growth and its inevitable future expansion in the development of hydraulic and mechanical work simplification devices for utility crews.

The new Holan borer known as Model 4401-M, is offered for engine-wise or counter-engine rotation drives, and is furnished as a complete kit. Various types of augers and cutting heads are available.

Suspended by derrick and winch line, guided by a crew man at the hole, and driven by power-take-off through a telescoping torque arm, the digger is highly versatile for reaching out over ditches and other obstacles. Simple manual disengagement of the winch line puts the derrick in service for pole setting. An optional feature is a rachet overload clutch which absorbs the shock of obstructions in the hole and eliminates the need for changing shear pins.

Further advantages are found in the lightweight, tubular torque arm drive shaft which offers a rigid assembly. An optional hardened-edge auger and a cutting head with replaceable points and pilot bit makes unit adaptable for difficult boring operations.

The Holan bearer has a gear case designed exclusively for the pinion and ring gear set. The heavy-section malleable iron housing is of rugged construction to resist impact in the field.

Manufactured in Cleveland, the Holan Earth Borers are available immediately from stock.—*For Complete Information, write the J. H. Holan Corp., or* ***Check New Product 667.***

Service Bodies

AN ALL-NEW LINE of Morrison Service Bodies has been introduced by *Morrison Steel Products, Inc.,* 601 Amherst St., (Dept T E & M), Buffalo 7, N. Y.

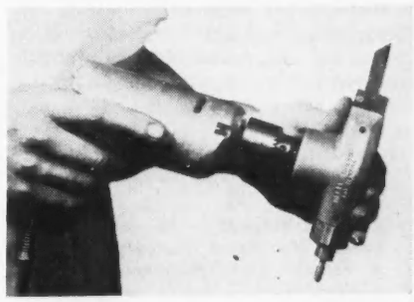
Completely new, the line offers models to fit 40 different Chevrolet, Ford, Dodge, Studebaker, GMC and International Chassis . . . ½ — ¾ — 1 — and 1½-tons . . . single or dual wheel. The Morrison Service Bodies have 25 new features. Outstanding are: bonderized, all-steel welded construction with double lap-type joints; 18 different compartment arrangements; extra-large compartments which are lockable with all doors keyed alike; completely weatherproof compartments through the use of lap seals and gutter drains on all doors; 25 to 35 square feet of floor loading area; 12-gauge, 4-way, safety tread, non-skid floor; hinged fender panels for easy access to wheels and spring shackles; and a complete line of new Service Accessories which can tailor any truck to the specific service, maintenance and construction needs of public utilities.

For complete information, including specifications and prices, ***Check New Product 668.***

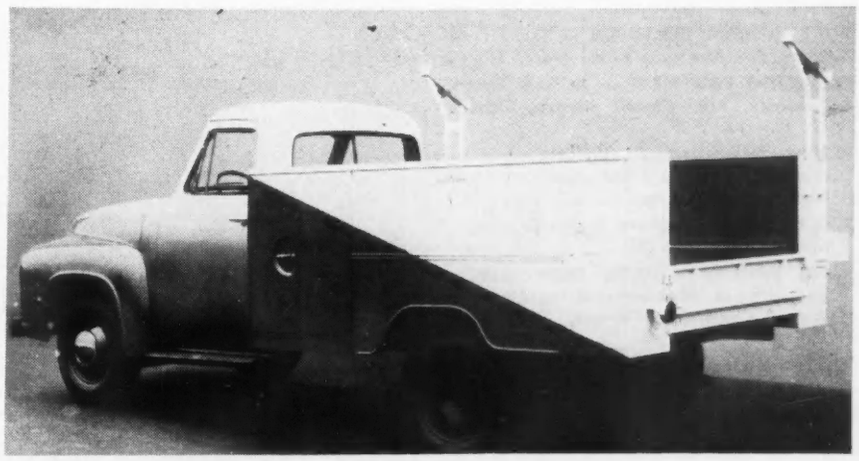
Tool Attachment

"HEFTY HOLER," a new compact heavy duty tool attachment for portable electric drills, has been announced by the manufacturer, *Little Beaver Industries Inc., Willoughby, Ohio.*

"Hefty Holer" fits any electric drill and weighs only 1-3/4 lbs. According to the manufacturer, it will



saw wood, plastic or plasterboard. It cuts all metals in pipe, bar, tube, rod or sheet form without a starting



Morrison Model 1050 D Service Body.

THE BUYERS' GUIDE

ADVERTISING, Directories — *General Telephone Directory Co., 604 Pine Ave., Long Beach, Calif., and 1800 Busse Highway, Des Plaines, Ill.*—[ADV. 1]

BELTS — CLIMBERS — COMPLETE LINEMEN'S EQUIPMENT, *W. M. Bashlin Co., Bashlin Bldg., Grove City 1, Pa.*—[ADV. 2]

BELTS — CLIMBERS — PLIERS — SAFETY STRAPS — CONSTRUCTION TOOLS. *Klein & Sons, Mathias. 3200 Belmont Ave., Chicago 18, Ill.*—[ADV. 3]

BOOTHS—Acoustic Telephone — *Sherron Metallic Corp., 1202 Flushing Ave., Brooklyn 6, N. Y.*—[ADV. 4]

BRUSH & WEED KILLERS — *Thompson manufactures many types of brush and weed killers. Write for helpful information on specific problems. Thompson Chemicals Corp., St. Louis 3, Mo.*—[ADV.5]

CABLE, All Plastic, Aerial, Duct, Direct Burial, PBX, Switchboard. — *The Ansonia Wire & Cable Co., Ansonia, Conn.*—[ADV. 6]

CORDS, Switchboard (with or without plugs), Instrument (retractable and regular) and Operators — *Commercial Cord & Supply Co., Inc., 26 Main St., Clifton Springs, N. Y.*—[ADV. 7]

CORDS, Switchboard & Telephone — *Runzel Cord & Wire Co., 4727-31 Montrose Ave., Chicago 41, Ill.*—[ADV. 8]

FURNACES — For quickly and economically melting lead and paraffin — *Mutual Liquid Gas Equipment Co., Inc., 3600 W. Imperial Highway, Los Angeles, Calif.*—[ADV. 9]

INSULATORS, Porcelain — *Porcelain Products Inc., Box 300, Findlay, Ohio.*—[ADV. 10]

LIGHTWEIGHT PULLERS — *Coffing Hoist Company, 800 Walters St., Danville 5, Ill.* — [ADV. 11]

PIPE PUSHERS — *Giant Manufacturing Co., South 6th St., at 12th Ave., Council Bluffs, Iowa.*—[ADV. 12]

POLE HOLE DIGGERS — *For derrick mounted trucks. Tele-E-Lect Products, Inc., 9613 Minnetonka Blvd., Minneapolis 16, Minn.* —[ADV. 13]

POLES, Southern Yellow Pine — *Colfax Lumber & Creosoting Co., Inc., P. O. Box 23. Pineville, La.*—[ADV. 14]

POLES, Southern Yellow Pine — *Taylor Colquitt Company, 290 E. Main St., Spartanburgh, S. C.*—[ADV. 15]

POLES, Southern Yellow Pine — *Texas Creosoting Co., Orange, Texas.*—[ADV. 16]

PROTECTIVE EQUIPMENT — *Reliable Electric Company, 3145 Carroll Avenue, Chicago 12, Ill.*—[ADV. 17]

REBUILT TELEPHONE & SWITCHBOARDS — *Telephone Repair & Supply Company, 1760 Lunt Avenue, Chicago 26, Ill.*—[ADV. 18]

TRUCK BODIES — *Highway Trailer Co., Edgerton, Wisc.*—[ADV. 19]

WIRE, Insulated — DATED DROP WIRE — Neoprene or Weatherproof — *Alphaduct Wire & Cable Co., Milltown, N. J.*—[ADV. 20]

WIRE, Insulated Drop and Bronze or Copperweld — *Acorn Insulated Wire Co., Inc., 36 Freeman St., Pawtucket, R. I.*—[ADV.21]

WIRE, Telephone, for all inside and outside uses — *Whitney Blake Co., New Haven, Conn.*—[ADV. 22]

hole. "Hefty Holer" will nibble metal lath, wood, plastic composition material or sheet metal up to 20 ga., with only a 1/4" starting hole.

Made with precision shielded ball and needle bearings prelubricated for life, no gears and hardened steel parts, "Hefty Holer" was originally designed to meet a demand by plumbing and heating installers for a rugged, compact tool. Its durable versatility makes it excellent for home workshops, electronical repair, and plant maintenance men. Accessory tools available include files, chisels, gouges and jig saw blades. — *For Complete Data, **Check New Product 669.***

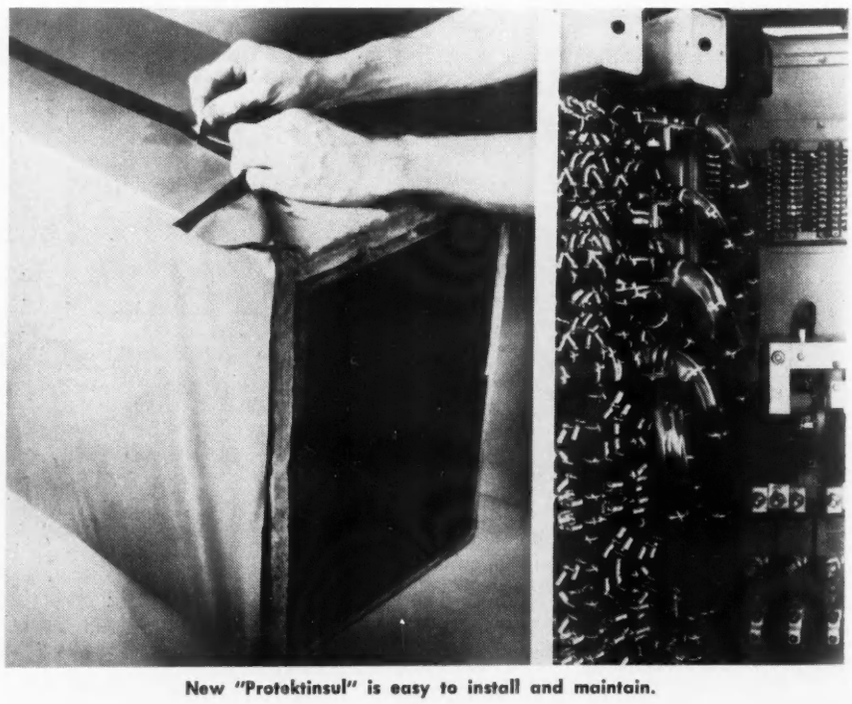
Insulation Protector

A NEW TYPE cover to protect insulation on ducts, pipe and cables against weather, abrasion, moisture and most chemicals is prefabricated of Krene plastic. According to the manufacturer the cover is highly resistant to moisture-vapor transmission, is durable, will not mould or mildew, and will not support combustion.

Developed by *Miracle Adhesives Corp., 214 E. 53rd St., Dept TE&M, New York, N. Y.*, the new cover known as "*Protektinsul*" is easy to install and maintain. The cover is simply wrapped around a thermal insulated pipe or duct and closed by pulling a unique plastic device which locks the pre-formed edges together (left photo). End joints or fittings are wrapped tightly with tape made of Krene, which is lapped over itself and the ends of the cover. A coating based on a Bakelite vinyl resin is brushed on to seal the fitting cover. To shield cable from abrasion, at a control board, for example, "*Protektinsul*" is wrapped around it, locked closed, and the ends sealed with insulated clamps (right photo).

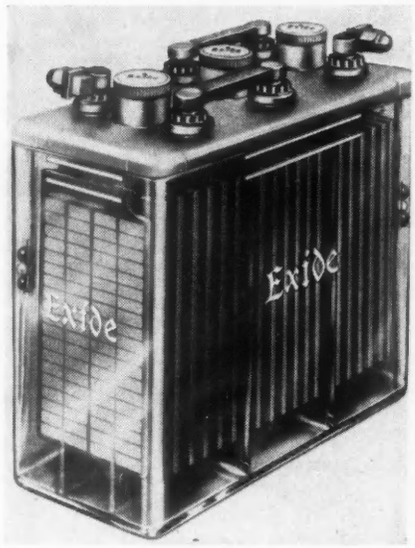
The light weight and flexibility of Krene contribute to the ease of covering ducts or pipe close to the ceiling or in other hard-to-reach places. Installed at low labor cost, Protektinsul also provides ready access to pipe, ducts or cable at any point without damage to the cover. It can be used on insulated pipe indoors or outdoors, underground in a steam-distribution system or conduit, or on low-pressure building heat supply lines.

"*Protekinsul*" lined with thermal insulation can be applied to complex run-out lines for air-conditioning units after the pipe has been bent and connected. The resistance of Krene to moisture and chemical action enables the new cover to withstand corrosive atmospheres. High dielectric strength and electrical insulation properties protect against electrolytic corrosion due to galvanic action or stray current effects. Protektinsul is available in black or colors, to cover insulated pipe from $\frac{1}{2}$



New "Protektinsul" is easy to install and maintain.

to 33 inches in diameter, and in lengths up to 100 feet. — *For complete Data,* ***Check New Product 670.***



Battery

APPROVAL BY *Underwriters Laboratories, Inc.*, of the first storage battery designed specifically for emergency lighting has been received by *Exide Industrial Division of The Electric Storage Battery Co., Philadelphia, Pa.* The firm also believes its 3-COE-7 Tytex unit is the first plastic-cased battery to be approved by UL. Previously, UL accepted storage batteries only if encased in glass or opaque vulcanized rubber.

Eight to twelve years of useful life is anticipated for the 3-COE-7, according to Exide. Quarter-inch thick pasted type positive plates and active material of special formulation contribute substantially to this extraordinary long life. Negative plates of heavy, rugged construction are in balance with positive plate characteristics. The active material is locked into both plates by a series of strong horizontal and vertical grid members. This construction assures permanent contact between active material and the grid structure carrying the electrical current. These features provide exceptionally low internal resistance, which increases useful service life, and highly sustained capacity.

Short circuits, one cause of failure in control circuit batteries, are prevented by triple insulation with inert plastic and rubber, which also assures maximum discharge characteristics due to low resistance.

Polystyrene, a clear, heat-resistant plastic, was selected for the container and cover of the 3-COE-7 Tytex battery after exhaustive laboratory tests. The material has extremely high impact resistance and mechanical strength in addition to its chemical and physical stability. It is impervious to the electrolyte, light in weight, and easy to keep clean.

State of charge is indicated by colored pilot balls floating in a vertical channel molded into one corner of the container. According to the company, the pilot balls may be observed from distances up to thirty feet.

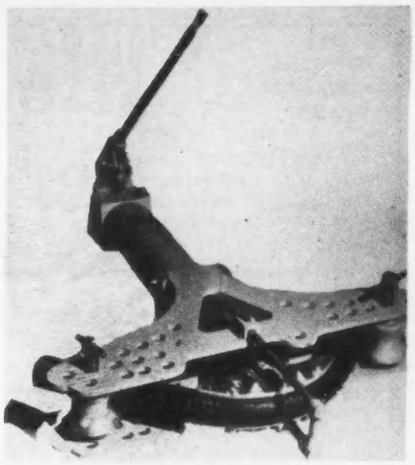
The battery requires addition of water only once or twice a year under normal circumstances.

Available in several capacities and container styles, the 3-COE-7 battery normally is supplied filled with electrolyte and charged for immediate service. It also is available charged and dry (without electrolyte), and uncharged and dry. The basic COE design is used in other Exide batteries including DOE, EOE, and FOE.

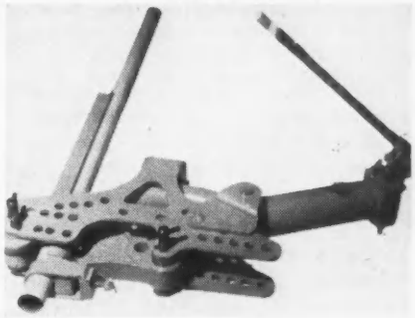
Additional information on the 3-COE-7 and other COE batteries may be obtained by requesting Form 5370 from *Department EL 686, (T E & M) Exide Industrial Division, The Electric Storage Battery Co., Box 8109, Philadelphia 1, Pa.*, or by ***Checking New Product 671.***

Bending Tool

THE FIRST portable hydraulic bending tool for bending both pipe as well as tubing, with one and the same bender, has been announced by *Tal Bender, Inc.*, Milwaukee 2, Wis. The hydraulic bending tool is equipped with a newly-developed frame ,which enables the worker to bend pipe, rigid conduit, as well as thinwall conduit (EMT), hard and soft copper, aluminum and steel.—*For complete data,* ***Check New Product 672.***



The "Tal-Bender" In Use



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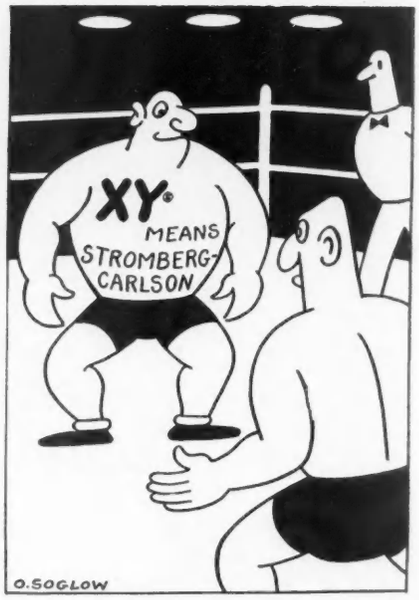

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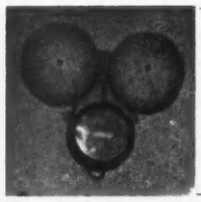

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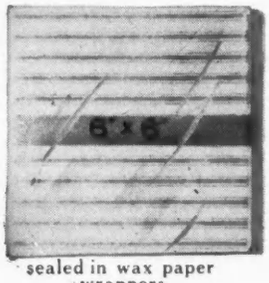

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FOR SALE: — Available about April 1, 1955, North Relay Dial Telephone System. Complete. 200 line capacity. Batteries and control panel. 200 AE dial hand sets. Can be seen in operation at the present time. For further details write: Plant Engineering Dept., Rochester Products Div. of GM, P.O. Box 1790, Rochester, New York. Attention: D. Subar.

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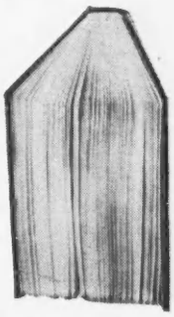

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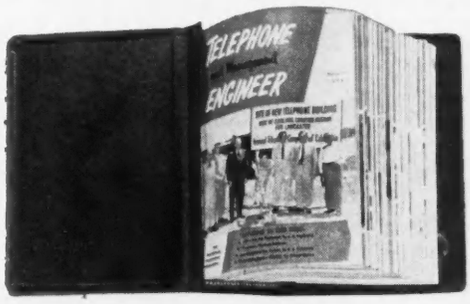

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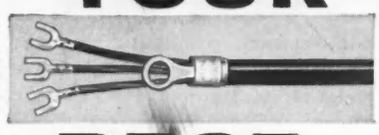

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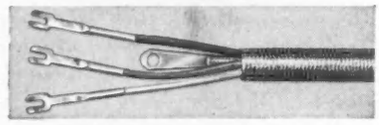

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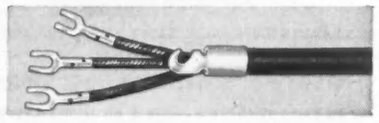

Are you familiar with the features of these fine cords?

NEOPRENE covered cords are a highly serviceable cord, extensively used in a wide variety of services. They are moisture and grease proof . . . easy to keep clean.

NYLON covered cords are a relatively new development in telephone cords. Their fine smooth texture makes them the preferred cords for switchboard use. They give long service. Preferred by operators because of their fast, easy handling.

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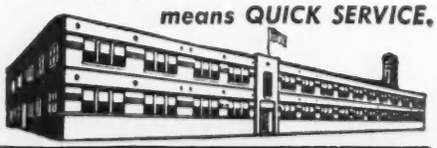

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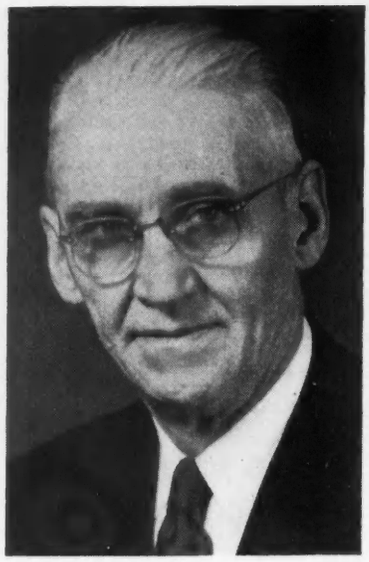


H. S. WILLIAMS

H. C. SMITH

Automatic Electric Announces Executive Changes

AUTOMATIC ELECTRIC SALES CORP., Chicago, Ill., recently announced the following executive assignments:

H. S. Williams, vice president, moves to New York to head the Eastern District Sales organization. He replaces T. A. Logan, who returns to Chicago to join International Automatic Electric Corp.

Mr. Williams, a native of Wisconsin, is a veteran of 30 years Automatic Electric service. He began his career in manufacturing, after completing the Automatic Electric Training School course in 1925, later transferring to sales. In 1932, he was placed in charge of specialty sales, and one year later named manager of the Eastern District in New York. He was named vice president in 1937. In 1941, he was called to active duty by the U. S. Navy, serving overseas in the Far East, and for a while on Admiral Mountbatten's staff in Ceylon and India. He retained his rank of Captain in the U. S. Naval Reserve.

At the end of hostilities, Mr. Williams returned to the General Offices in Chicago, to assume responsibility for Government Sales. In 1946, he was named to head the field sales organization, the position he held prior to his transfer to New York.

H. C. Smith, vice president, succeeds Mr. Williams and will direct the field sales force in addition to his present duties as manager of industrial sales.

Mr. Smith, a native of Elgin, Illinois has been with the Automatic Electric Group since 1924. After completing the training course in the Automatic Electric schools, he held a number of installation and operating assignments in various parts of the country, and then transferred to the sales organization in 1934. In 1939 he was appointed manager of the District office in Cleveland in which capacity he supervised sales of Automatic Electric products in the central eastern states. In 1943, he was named vice president of Automatic Electric Sales Corp. and placed in charge of the Pacific Coast District with headquarters in San Francisco. In 1953 he returned to the general offices in Chicago as manager of industrial sales.

H. E. Reynolds Opens Lynch Chicago Office

LYNCH CARRIER SYSTEMS, INC., has announced the opening of its Midwest sales and engineering office in the Graybar Building, 850 West Jackson Blvd., Chicago, Ill. Herbert E. Reynolds has been assigned to head up this activity. The principal function of this office will be to offer additional engineering assistance on Lynch carrier-telephone and carrier-telegraph equipment.

H. E. REYNOLDS

Mr. Reynolds joined the engineering department of Lynch Carrier Systems, Inc., in February 1954.

STROMBERG-CARLSON®

transmitter

Published by the famous makers of XY® Equipment

VOL. 3 NO. 12 MARCH, 1955

XY Conversion Marks Diamond Jubilee Celebration at Clarinda, Iowa

Art Kelley, son of A. L. Kelley, manager of the Farmer's Mutual Telephone Co. of Clarinda, Iowa, used a specially-installed intercom system to direct the changeover as 2,700 stations were given dial service. A well-instructed crew carried out designated tasks on the three floors of the modernized building; two minutes later the conversion was complete.

Months of planning had preceded this moment. Even before the decision to install XY dial equipment was reached, Mr. Kelley had taken an intermediary step to make his manual system more easily convertible to dial. Extensive remodeling provided larger, pleasant office areas and a more efficient layout for the new Stromberg-Carlson No. 3 Toll Board.

Clarinda can look back 75 years to the days when the few telephones were the social gathering points as hot news flashes from the 1880 Republican Convention were shared among the crowds at the post office or drug store. But since Mr. A. L. (Bert) Kelley assumed the managership in 1928, the telephone company has looked forward, introducing improvements to meet the changing times and expanding list of subscribers.

The XY dial equipment provides for both terminal-per-station and 200 terminal-per-line operation with 2-5 numbering. The toll board provides nationwide intertoll dialing to all cities with equivalent service. The latest type of test equipment—Stromberg-Carlson Type "D" Wire Chiefs Test Board — provides a highly efficient method for routine testing and trouble shooting. A special fire-answering service, described on a later page of the TRANSMITTER, is an additional feature.

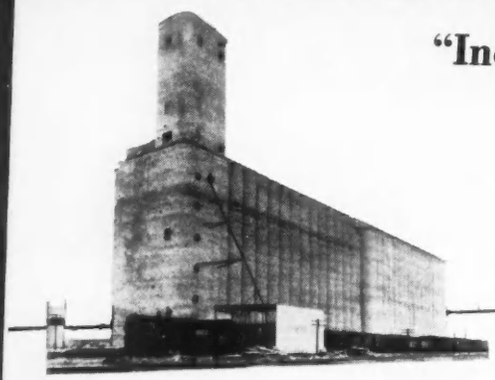
To the Kelleys, father and son, and the many who have contributed in bringing Clarinda this fine telephone system — congratulations.

AFTER CLARINDA'S SMO-O-O-TH CUTOVER: l. to r., Arthur C. Kelley, plant superintendent; John Hayes; A. L. Kelley, general manager.

Preparations for Clarinda's cutover to XY Dial included remodeling their facilities, such as this large, pleasant office.

Another important addition for Farmer's Mutual Telephone Co. was this new Stromberg-Carlson No. 3 Toll Board, with five positions.

STROMBERG-CARLSON **transmitter**



"Increased the efficiency of our office considerably"

Says Nebraska Grain Firm of "6K System"

Independent telephone people by the hundreds know all too well the challenge and the problems which arise when the combines finish the harvest — when wheat by the millions of bushels must be moved to country and terminal elevators, to be graded, stored and eventually sold.

Instant communication both within the elevator office and with the many grain trading centers make the difference between profit or losses for farmer and grain merchant alike. At Hastings, Nebraska, the Lincoln Telephone and Telegraph Company selected the Stromberg-Carlson "6K System" to provide this rapid, dependable telephone service. Naturally we are pleased that Mr. Hawkinson, general manager of the Morrison-Quirk Grain Corporation, sent this unsolicited letter to his local telephone company manager, Mr. E. J. Flowerday, at Hastings.

Morrison-Quirk *Grain Corporation*

P. O. Box 74 Hastings, Nebraska Phone 2-5176

November 13, 1954

Mr. E. J. Flowerday,
Area Manager,
Lincoln Telephone & Telegraph Co.,
Hastings, Nebraska.

Dear Mr. Flowerday:

After having used your new 6K telephone system in our office for a period of one month, we are pleased to report to you that we are more than satisfied with it. It has increased the efficiency of our office considerably by its rapid method of directing incoming calls, and during our rush season the interoffice communication has been most valuable in coordinating the various phases of our office work. After having used this system, we would never want to be without it again.

Very truly yours,

Morrison-Quirk Grain Corp.

David F. Hawkinson,
General Manager

DFH:mb

Mr. David Hawkinson thanks the Lincoln Telephone and Telegraph Co. for solving his problem with a "6K System."

Instant reports of incoming shipments; contact with nationwide grain centers for up-to-the-minute prices.

STROMBERG-CARLSON **transmitter**

Wheat is perishable until under cover — just one reason why the communications system must be adequate for peak load traffic at harvest time.

What is the Stromberg-Carlson "6K System"?

The communication needs of the Morrison-Quirk Grain Company are repeated many times over in other business firms. For the small or medium-size office — too large for key turrets, but not requiring a conventional PBX — the "6K System" furnishes a means for efficient sharing of several trunk connections to the central office along with local intercommunication, by a number of telephones.

With the "6K System" the subscriber can answer, originate, hold and transfer central office calls on one to five lines — all functions accomplished at the user's desk instrument. When desired, intercommunication may be provided either by direct signalling or through an auxiliary dial switchboard such as the Stromberg-Carlson 2-10 or 4-20 Dial Systems.

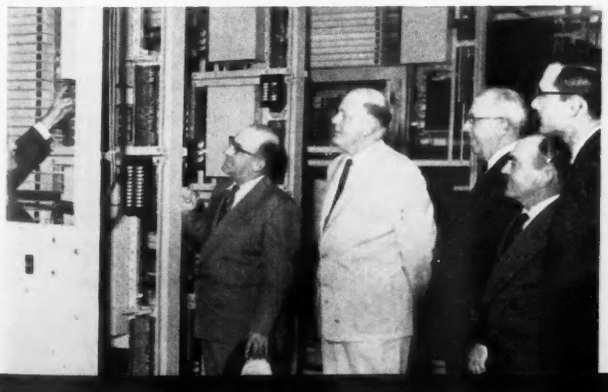
The desk instrument is externally the same as the No. 1543 telephone, with the addition of keys. Lamp signals on the instrument clearly indicate incoming calls and busy conditions on all lines.

A terminal box for each telephone, a relay cabinet and compact power unit complete the system.

Southwestern States Brings XY® to Sunset, La.

300 lines, 600 terminals were cut over January 16, as Southwestern States Telephone Co. put its 29th XY Dial System into service at Sunset, La.

Louisiana's Public Service Commission chairman, Wade Martin, was speaker at a banquet by the Young Business Men's Club of Sunset.



AT SUNSET CUTOVER: l. to r., J. N. Nelson, district manager, Welsh, La.; Marvin Barnes, plant superintendent, and H. N. Hammond, chief engineer, both of Brownwood, Texas.

Technical Publications Available on Request

The accompanying list of Stromberg-Carlson technical publications is published in response to requests for this information from several operating telephone companies. A letter or post card to the Technical Publications Editor, Rochester 3, N. Y. will receive prompt attention.

T-107 General Description of the XY Dial System
T-111 General Brochure on XY-PBX Equipment
T-113 General Description, No. 3 Toll Board
T-114 Basic Maintenance for XY Systems
T-117R Engineering Bulletin for the 2-10 Dial System
T-119 General Brochure — The 2-Line Telephone
T-120 Engineering Bulletin — The 2-Line Telephone
T-121 Facilities of the XY Training School
T-122 General Brochure — The 2-10 and 4-20 Dial Systems
T-124 Engineering Bulletin — XY Toll Ticketing Systems
T-127 Information and Special Service Desks
T-129R Engineering Bulletin — The "6K System"
T-130 The "1500" Series Telephones
T-131 Operator's Instructions for the No. 3 Toll Board
T-132 General Brochure — Microwave Systems
T-133 Engineering Bulletin — Extended Dials
T-134 Operator's Instructions — No. 121 Cordless Switchboard
T-135 General Brochure — S4-C Carrier
T-136 Engineering Bulletin — S4-C Carrier
T-137 Installation & Maintenance — S4-C Carrier
T-138 Number Assignment Procedures— Terminal-per-Line
T-139 General Description — Tape Announcer
T-140 General Brochure — Convenience Systems
T-143 2-5 Numbering with Digit Adding Systems
T-145 Maintenance and Adjustment of the XY Switch
T-148 Engineering Bulletin — The XY "B" System
T-150 General Brochure — Two-Tone Telephones

STROMBERG-CARLSON *transmitter*

The "1500" Series Telephone in COLOR

By Thaddeus W. Kucharski, Telephone Apparatus Engineering

Color is defined by Webster's dictionary as "a sensation evoked in specific response to stimulation of the eye and its attached nervous mechanisms by radiant energy of certain wave lengths and intensities." On the basis of this definition, since we have become color-conscious, we must also be a sensation-seeking nation affected greatly by all the radiant energy conceivable in an atomic era!

What can be the basic reason for this trend? The obvious answer is public demand. The position of color in our everyday thinking is exceedingly apparent. The modern home is pleasantly decorated and furnished with items embellished in a wide range of color. The use of color by manufacturers of items for home consumption has so influenced the thinking of the public that everyone considers himself an expert on the subject. The individual's tastes have changed from that of staid conservatism to the flair for the basic colors and their infinite variations.

Note the colors available in our new automobiles. Just a few years ago, black was the standard color (or rather the absence of color). To have an automobile finished in color meant something very special. Today the black automobile has passed almost into oblivion and countless hues of color have come into their own on our most common means of conveyance.

It was only a question of time before an essential item like the telephone would break out of its conservative black wraps and step out in garments of true beauty. Today the "1500" Series telephone made by Stromberg-Carlson is available in color.

Several years ago when the decision was reached to manufacture the "1400" Series telephone, plastic materials were considered for many of the basic parts. Chief amongst these were the housing and the handset. One of the deciding factors in favor of the selection of plastic materials for this application was the practically unlimited range of colors available. However, introducing the color factor into the molding of plastic parts also brought us face to face with problems usually associated with color.

The following problems were encountered and dealt with when molding the colored plastic telephone parts began:

1. **Contamination** — minimized or eliminated only by the most stringent control on cleanliness of the molds and the freedom from any impurities in the materials used.
2. **Breakdown of pigment** — only rigid control of the proper heat in the molding cycle could prevent this.

3. **Visible defects magnified** — only by keeping the molds in excellent condition could this be considered nonexistent. Any scratches, pock marks, or chips had to be removed immediately or these defects would be reflected to disadvantage in the colored plastic part.
4. **Color match** — extreme care must be taken to not only match colors from lot to lot but also from part to part.
5. **Plastics versus other materials** — texture itself makes the essential visible difference. An item such as a rubber foot would, of course, not impress the eye in the same manner that a lustrous plastic part would and a pleasing combination had to be chosen.

Notwithstanding the above problems, Stromberg-Carlson Company proudly adds this spectacular line of telephones to its large and still growing family of "1500" Series telephones. The telephone housing is now available in Chinese Red, Dove Gray, Olive Green and Antique Ivory. These housings when combined with jet black handsets, dials and cords present a striking contrast in two-tone effect. Thus the operating company can, with the purchase of colored housings, offer modern colorful instruments for subscriber use.

STROMBERG-CARLSON transmitter

Inventories can be kept low since such an arrangement only requires a stock of colored housings and the usual stock of black telephones. The use of colored housings in this manner not only saves shelf space for the telephone company but also permits the installer to have a full complement of colors available with him when he installs a new phone for the customer.

Individual preferences, of course, will dictate that a variety of colors will be necessary to meet individual needs. A complete study of the color preferences of both the operating companies and their subscribers is now being made. To fulfill the immediate demand for a colored telephone to blend with the modern gray metal office furniture and to provide a neutral color in other locations, the first all-colored telephone was introduced. In this telephone, the housing, handset, cords, rubber feet and dial number plate are all gray. This all-gray telephone, with its nickel-plated satin finish finger plate blends harmoniously with the decor of the modern home or office.

Permitting the subscriber to choose a colored telephone will make him feel that he is buying something more than just service. By this personal touch, the operating company not only furnishes this "extra" desired by the subscriber, but also acquires a new source of revenue at the same time.

Southwestern States Co. Completes XY Cutover at Gilmer, Texas

They're Off!

The "toothpicks," that is. No matter how many times a company has made a dial cutover, there's a thrill to that moment when you bring in the new system.

Gilmer, Texas, county seat of Upshur County, is a prosperous agricultural community of 6000. The new 800-line terminal-per-station XY® Dial System, number 30 for this company, is housed in an attractive new building. At the cutover, l. to r., are W. T. Moore, division mgr. for Southwestern States Telephone Co.; W. F. Davidson, installing contractor; Harold Sears, installer; Carl Price, Stromberg-Carlson representative; W. B. Nauny, cable foreman and Paul Robertson, division plant supervisor, both of Southwestern States Telephone Co.

. . . as Gulf States Co. Converts Price, Texas

We're all through —
Let's get out of here.

The four gentlemen, all of the Gulf States Telephone Company with headquarters in Tyler, Texas, are, reading from the left: Richard Thompson, installer; Donald Lamb, assistant to the general manager, William Cox and Fred Weaver, installers. Tests completed and lines cut in, they are ready to let the XY switches take over in this unattended office. Many years experience with this type of equipment, in six offices both large and small, give them solid foundation for their confidence. By the way — don't forget your hat, Don!

STROMBERG-CARLSON transmitter

Stromberg-Carlson Credit Corp.—still unique in

Phillip J. Lucier

Phillip J. Lucier, with an inherited telephone background and several years experience as a traveling representative, was instrumental with several others in developing the finance plan which has become the Credit Corp. From the first he has been its active head. Although recently made assistant treasurer of parent Stromberg-Carlson Co., his true love is and will be the Credit Corp. and the associations he has made in this service to Independents.

George Gordon

George Gordon, for many years associated with the law firm of Nixon, Hargrave, Devans and Dey of Rochester, brings a fine background in commercial law to his present position of assistant secretary of Stromberg-Carlson. His primary concern is with the legal aspects of Credit Corp. loan contracts.

Four years ago last month the newly-organized Stromberg-Carlson Credit Corp. completed its first loan contract with an Independent telephone company. Since that time, loan agreements have been made to operating companies in 31 states, and today the requests for service by potential borrowers — far from diminishing — have accelerated to the point where additional personnel are indicated.

The phenomenal success of this organization can be attributed to two facts: the first is that it was a pioneer in a specialized area of financing which had heretofore seemed unattractive both to large lending institutions and to the local banks. The second fact — of even greater significance in the continued growth of the Credit Corp. — is that the organization offers a completeness of service which is still unique. Entirely within the normal compass of its work is legal counseling, engineering, financial and accounting assistance. The loan applicant thus has the advantage of dealing with only one agency which has *within itself* the experts qualified to investigate, recommend and carry forward the modernization program.

The helpful assistance rendered is best indicated by the incidence of second applications. For instance, the initial loan was to the Seacoast Telephone Company of Georgetown, S. C., and just this month a second (and larger) loan has been completed for additional central office equipment and outside plant required by the unprecedented growth in this area. Those who read of the damage visited upon the Myrtle Beach exchange of this company by Hurricane Hazel may have asked themselves what the future could offer. The attitude of the Credit Corp. was to extend help immediately — an unsolicited and unrestricted check for $25,000 to defray emergency labor and repair costs was in the mail the same day the news was received.

An interesting side light on the service rendered by the Credit Corp. can be inferred from the "location" map in the office. It seems to be the pattern that whenever a loan is placed with one operating company it is only a matter of time before new pins, indicating further loan inquiries, appear in the near vicinity. Many customers, being active in their state organizations, have been willing to share with their neighbors the features of the Stromberg-Carlson plan.

It should be pointed out that while the emphasis is still placed on assisting the smaller operating companies who are not able to borrow at attractive rates in the general market, the Credit Corp. has had marked success in obtaining private financing through outside sources at even lower rates for those companies able to qualify. In the case of Florence, Ky. and Weaverville, Calif., the Credit Corp. thus acted in the role of intermediary.

A further service is available to loan prospects. Over and above the direct personnel, the Credit Corp. employs the services of a firm of Certified Public Accountants who for many years have specialized in the utility field. The experience of this firm, in the field of state regulatory commission work has proved of immeasurable assistance to Independent operating companies.

The Credit Corp. loan program at Henderson, Nev., has already brought a fine new XY Dial System to this fabulous town, as previously written in the TRANSMITTER. The strikingly beautiful building was designed for the expansion which was confidently expected and is now happening. Flexibility of the Credit Corp. agreements makes it easy and economical to provide further financing for growth. In the photo l. to r. — R. H. Phelps, Stromberg-Carlson representative, watches as Hershel Trumbo, manager of Henderson is congratulated by Nevada's Governor Russell.

STROMBERG-CARLSON transmitter

offering complete financial counseling and assistance

G. Warren Schomaker

Warren Schomaker, recently made assistant manager of the Credit Corp., joined the Engineering Dept. of Stromberg-Carlson in 1945. Three years later he was transferred to the Chicago branch, traveling the states of Kentucky, Tennessee and southern Indiana as sales representative. He found real satisfaction in spending a lot of time where help was needed most; some of the contacts made then have developed into excellent Credit Corp. loans. Warren was called in from the field in 1952 for a year's training in the credit department, moving from there into the Credit Corp. as field engineer.

Randolph D. Shoemaker

Known to all as "Shoes," R. D. Shoemaker is the dean of the group in years of service with Stromberg-Carlson. Many an exchange manager from Iowa to Costa Rica or Colombia remembers how "Shoes" has helped them with engineering design or repairing storm damage. Installation, engineering, export and domestic sales and sales engineering — "Shoes" has had a turn at all of them. His seasoned experience is invaluable, especially to the man who is planning his first conversion.

Let's not forget the ladies! Reading from the left: Margaret Dwyer, Lee Pittinaro, Mary Holland, Janet Byer. They contribute largely to the smooth functioning of the organization.

John W. Tegelaar

John Tegelaar is presently acting as resident engineer for dial conversions under the loan program. His work in the engineering department of the parent company, where he was project engineer on such large XY® installations as Kingsport, Tenn., Coeur d'Alene, Idaho, and Lufkin, Texas, eminently qualify him for this work. John grew up in Delft, Holland; further technical education and army service came after joining Stromberg-Carlson in 1942.

Harold W. Moonen

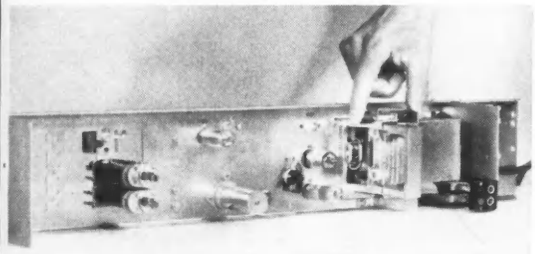
Harold Moonen shares with Robert Meyers the administrative details which loom so large in the smooth operation of this organization. Hal has a background of credit experience which began in Dun and Bradstreet's Chicago office, then credit and office manager of the Stromberg-Carlson Chicago branch. In general Hal's work for the Credit Corp. begins after engineering surveys are completed; sometimes through correspondence valuable time can be saved for customer and engineer.

Robert M. Meyers

Robert Meyers came to Stromberg-Carlson in 1944. A graduate of the Economics and Business Administration School at Cornell University, Bob's chief concern is in the processing of loans. Before joining the Credit Corp., he worked in the billing, credit and priorities section of the company; then moved first to Kansas City and later to San Francisco as office and credit manager. It's well he likes his work, since it is cumulative as new loans are completed. He especially likes to make refinancing propositions wherever this will prove of benefit to the loan customer.

STROMBERG-CARLSON **transmitter**

Tape Announcer Puts Out Fires in Novel Use at Clarinda, Iowa



Clarinda, like many cities served by Independent companies, has a small centralized fire department manned full time, with a large and very efficient corps of volunteers. The problem, under a dial system, was to be able to advise volunteers of the location of a fire so that they could drive direct to the scene without having to report to the fire station.

An XY® Tape Announcer, with microphone and recording head, is located in an attended fire station. This fire station has the various trucks, etc., and is the headquarters for the volunteer group.

The Fire Number is listed in the directory. A person wishing to report a fire dials this number and is connected to the Fire Attendant.

The attendant obtains the location of the fire and records this information on the Tape Announcer. He then sounds the siren to notify the volunteer firemen.

The firemen, upon hearing the siren, call an unlisted number from any telephone. This number is so arranged in the XY equipment that it can easily be changed so that unauthorized people cannot call in.

This unlisted number connects the calling person to the Tape Announcer. Thus the firemen obtain the location from the tape while the attendant is free to take another fire call, get the equipment ready, or whatever is needed.

As a side light, the Kelleys (Mr. A. L. Kelley, manager of the Farmer's Mutual Telephone Co., and son Art Kelley) are obtaining very good revenue by renting this service to the fire group.

Story Without Words

"Ugh! This is last message from Bullard, Texas before cutover to XY System."

Another Step Forward for Ambitious Program in Louisiana

The Gulf Coast of Louisiana is the scene of thriving activity — oil being a major factor. The Cameron Telephone Company is meeting the situation with an ambitious dial conversion program which includes six XY® Dial System offices inter-connected by both carrier and microwave, and XY Toll Ticketing linking the outlying exchanges with the principle office at Cameron. During December the Hackberry and Cameron offices were cut over to dial operation, others will follow soon.

W. L. Henning, general manager and J. T. Henning, plant manager of the Cameron Telephone Co., Sulphur, Louisiana, shown with Mr. Cooper of Cooper Construction Co.

Waiting for Zero Hour at Cameron: L-R, Mr. Beekton of Van Ort Engineering Co., Charlotte, N. C.; J. D. Smith, Stromberg-Carlson installer; Charles Seebe, outside installer; W. L. Henning, (seated) general manager and J. T. Henning, plant manager, Cameron Telephone Co.; Mr. Cooper of Cooper Construction Co.; Hiram Sprout of Van Ort Engineering Co.

Published by Stromberg-Carlson . . . makers of Famous XY Equipment

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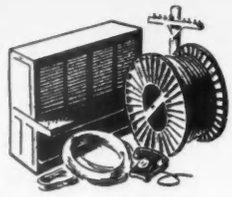

Advertisers' Index

Acme Visible Records, Inc. 94
Acorn Insulated Wire Co. .....
Alphaduct Wire & Cable Co. 101
American Appraisal Co. 100
American Creosote Co. .....
American Tel. & Tel. Co. 70-71
Ansonia Wire & Cable Co. 21
Armstrong Cork Co. 102
Automatic Electric Sales Corp.
..... 27, 37, 60-61, 83, 91, 119

Bashlin Co., W. M. 96
Berry & Co., L. M. 2
Inside Front Cover
Bishop Manufacturing Corp. 28
Bohnsack Equipment Co. 106
Buckeye Telephone & Supply Co. 36, 107

C & D Batteries, Inc. .....
Cable Spinning Equipment Co. 74
Calculagraph Co., Inc. 23
Chance Co., A. B. 4
Commercial Cord & Supply Co. 98
Communi-Catering 100
Cook Electric Co. .....
Copperweld Steel Co. 24
Corey Steel Co. .....
Cowan Associates, B. S. .....
Crane, Carl C. 100
Cullom Ghertner Co. 100

Davis Construction Co. 100
Donnelley & Sons, R. R. 36

Electric Storage Battery Co. 5

Fulton Auto Exchange .....

General Cable Corp. .....
General Electric Co. .....
General Insulated Wire Co., Inc. .....
General Telephone Directory Co. 120
Back Cover
Gladwin Plastics .....
Gould National Batteries, Inc. 29
Graybar Electric Co. 68-69
Greenlee Tool Co. .....

Harris-McBurney Co. 100
Henkels & McCoy 100, 106
Hill Engineers, Inc., Cyrus G. 100
Hughey & Phillips .....

Independent Tel. Repair Co. 100, 106, 107
Indiana Steel & Wire Co. 95
Instrument Laboratories .....
International Harvester Co. .....
International Standard Electric Corp. 31
Irwin Auger Bit Co. 102

Kander, Allen 94
Kato Engineering Co. 102
Kaufman, H. J., Co. .....
Kearney, James R., Corp. 90
Kellogg Switchboard & Supply Co.
..... 12-13, 14-15, 92-93
Kimble Glass Co. .....
King, W. T. 100
Klein & Sons, Mathias .....
Koiled Kords, Inc. 117

Leich Sales Corp. 54-55
Line Material Co. —
A McGraw Electric Co. Div. .....
Loomis Advertising Co. 65
Lorain Products Corp. 90
Lowell Insulated Wire Co. 99

Mahood, Edwin T. 100
McCabe Powers Auto Body Co. 39
Metropolitan Telephone Supply Co. 108
Mitchell, Jay G. 100
Murphy Engineering Laboratories, Inc.

Natco Corp 117
National Telephone Supply Co. 30
Neale Construction Co. 100
North Electric Mfg. Co. 6-7

Owens Illinois Glass Co. .....

Page & Hill, Inc. 97
Piedmont Wood Preserving .....
Porcelain Products 88
Power Equipment Co. .....
Preformed Line Products Co. 58
Prodelin, Inc. 81

Raytheon Manufacturing Co. 87, 89
Reliable Electric Co. 40
Remington Rand, Inc. 19
Republic Creosoting Co. 17
Rex Corporation 3
Roanwell Corp. 88
Roll-A-Reel Corp. 88
Runzel Cord & Wire Co. 108

Safety Tower Ladder Co. .....
Schauer Manufacturing Corp. 96
Seymour Smith & Son, Inc. 98
Sloan, Cook & Lowe 100
Stahl Metal Products 36
Stromberg-Carlson Co.
..... 11, 42-43, 78-79, 84-85, 107, 109-116
Superior Cable Corp. .....
Suttle Equipment Co. 38, 100

Taylor-Colquitt Co. 77
Telectric Co. .....
Telefon Fabrik Automatic A/S .....
Tel-E-Lect Products, Inc. .....
Telephone Answering & Recording Corp.
Telephone Engineer & Management 8
Telephone & Power Supply Co. 100
Telephone Repair & Supply Co. 107
Telephone Supply Corp. 100
Telkor, Inc. 107
Thompson Chemicals Corp. 35
Tool Design & Equipment Co. .....

U. S. Independent Tel. Assoc. 80
U. S. Motors Corp. .....
U. S. Steel, Coal & Chem. Div. 67
U. S. Steel (American Steel & Wire) 44
Utica Drop Forge & Tool Corp. .....
Utility Tool & Body Co. .....

Western Electric Co. .....
Whitney Blake Co. 75
Wiebel, Inc., L. H. 77
Williams, Geo. E., Co. 107
Williams Inspection Co., A. W. 100
Wooten & Co., L. H. 100

York Hoover Corp. 76

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The Back Of The Book

By JOHN G. REYNOLDS

Navy Widow Explains Listing

ROSALITA SPICKELMIER is the youngest person ever listed in the Seattle telephone directory and she doesn't care to discuss it.

So her mother does all the talking for Rosalita, who is 4 months old.

Asked why her daughter's name appears in the new directory instead of her own, Mrs. Gordon Spickelmier said, "She's all I have left."

"My husband was a tail gunner in a Navy plane," said Mrs. Spickelmier. "He was in that plane that went down in the Yellow Sea a year ago. He'd been in the Navy 12 years.

"He fought in Europe and in the Pacific, then in Korea. He enlisted when he was only 17. But the war finally caught up with him. He was a wonderful guy." She was silent a moment. Rosalita, clutching the telephone like a new doll, gurgled happily. In a soft drawl straight from Kingsport, Tenn., Mrs. Spickelmier added;

"I can't list Gordon's name, but I can her's."

"Call Completed"

TELEPHONE operators are adroit in their handling of unusual requests, and last month one of the Ottumwa, Iowa, toll operators gave a rare example of superior service. She was asked to complete a call to a woman in Traer, Iowa, whose first name was Myrtle, last name unknown. The only other information given the operator was that "Myrtle" had a relative in Grand Island, Neb. The operator called one of the banks in Traer, recited her problem to the bank's president, and was immediately given the person's surname and telephone number and the call was completed.

Germans Put Meters On Phones

WEST GERMAN postal authorities have brought out an automatic telephone meter that tells the subscriber how much — unofficially — his calls cost.

An indicator on the meter moves one dot for each local call, priced at 16 pfennigs (6.5 cents). For long distance calls, it moves as many dots as the caller uses 16-pfennig units.

The device comes in two forms. One, the size of a watch, is fitted into the telephone. The other, a small box, is installed beside it.

Postal authorities emphasize that the meter is not an official recorder of telephone charges. They will have the last word on that when they send the monthly bill.

Driver's Prayer

BUSINESS MEN in Virginia paid the printing costs and the Daughters of the American Revolution of that state distributed thousands of copies of "The Motorist's Prayer" to Virginia motorists. The Prayer, fixed on the sun visors of automobiles, may be saving uncounted lives in the Old Dominion. It follows:

Grant me a steady hand, and watchful eye,
That no man shall be hurt when I pass by.
Thou gavest life, and pray no act of mine
May take away or mar that gift of thine.
Shelter those, dear Lord, who bear me company.
From the evils of fire and all calamity.
Teach me to use my car for others' need,
Nor miss, through love of speed,
The beauty of Thy world; that this I may
With joy and courtesy go my way.

"Faster Than A Texas Jackrabbit"

JUST A FEW weeks ago a No. 60 Remington Rand Univac electronic computer was installed in the *West Coast Telephone Company's* general office tabulating room, where Tab Supervisor Al Solem reigns over a complicated mass of computing and recording machinery.

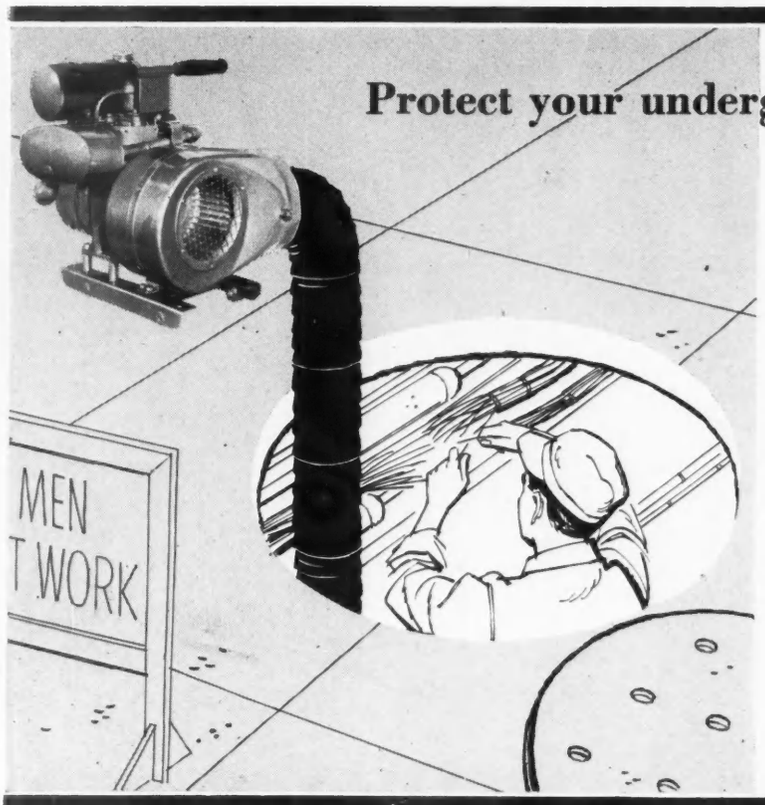
According to the editors of "*Crosstalk*," Univac is a foretaste of a Ray Bradbury scientifiction story of the world to come. As an example, *Al Solem* talks nicely to Univac and it figures payroll checks for the entire West Coast force, about 1,800 employes, in less than 18 minutes, an operation that formerly took 7½ hours! In one second, the Univac can perform 1,905 additions or subtractions, or 465 multiplications; or 257 divisions.

When it comes to cost records, Univac will make computations necessary to keep a complete perpetual inventory of materials, distribution of materials used, labor and overhead expense. These expenses will be accumulated by exchange, by account, by district on the responsibility accounting statments, which are used by all districts and departments to control budgeted expenditures.

"That machine works faster than a Texas jackrabbit diggin' for oil," Comptroller *John Warren* exclaimed. "We do the planning or programming and tell Univac what we want to know: he works any problems we give him but stops work if we make a mistake in our programming."

The third one of its kind in operation today, the computer has already saved several weeks in man hours during the few weeks it has been in operation at Everett.

Automatic's pointers for plantmen and managers



Protect your underground crews with a "breath of fresh air"

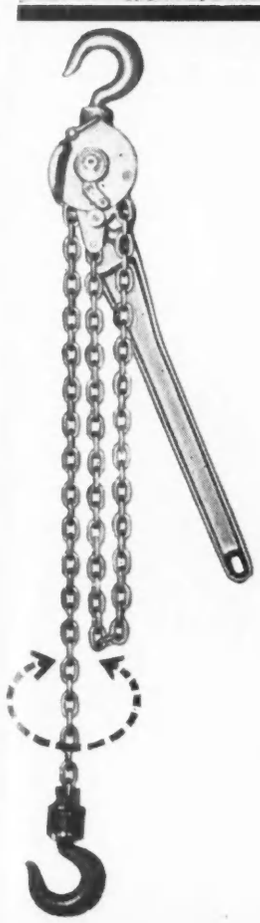
A U. S. Motors gasoline blower circulates 800 cubic feet of air a minute! Blows fresh air down into the manhole, forces out bad air and toxic gases. Underground crews work better with clearer heads, safer.

Unit runs quietly, too, with new patented "silencer" on exhaust — an important "good-will ambassador" in areas where quiet **must** be maintained.

Workmen like this blower's balance and the comfortable cushion grips at top for easy carrying by a single man. Big rubber-cushion mounts soak up destructive vibration, end creeping. Full one-gallon gasoline capacity is enough for 6-hours work without refueling.

The 8-inch diameter Spiratube hose attachment flows the fresh air down into the manhole; extending to 15 feet, it can be directed into low spots to assure desired air circulation. Folds flat like an accordion.

Cat. No. S-2706 Gasoline Blower Ea. $154.28 (f.o.b. mfg.)
S-2710 Spiratube Hose 64.00



Here's a new "twist" on hoists

The new Coffing hoist is equipped with a coil chain that will twist or wrap in any direction. This greater flexibility makes the hoist very easy to manage, no matter what the slack-pulling job. The handle can be operated on either side of the hoist, in any position, with either full or partial strokes.

Another outstanding feature of the coil chain hoist is that it can easily be converted from 1½ ton to ¾ ton capacity for lighter loads. This doubles the length of lift, gives twice the speed.

Each
Cat. No. S-4789 $59.00
(f.o.b. Chicago)

Protect distribution cable at the pole

The type of cable guard that has been used for regular plastic cable can be used also with General Cable's rural distribution cable. It offers positive protection against abrasion, where the cable is clamped to the pole support bracket. For 6-pair rural distribution cable order the ½ inch size.

If your supply of cable guards is low, call up the nearest Automatic Electric warehouse and let them help you stock up for the next construction job.

Cat. No. S-4522 $8.50 per hundred (f.o.b. Chicago)

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how big is a "GOOD CATCH"?

All depends, of course, where you fish.

Swordfish aren't snagged in a brook. By the same token, a thousand station directory can't return the same revenue as a ten thousand name book.

Big or small, however, you should get maximum return from the directory you do produce . . . as well as smart appearance, accurate listings and goodwill from subscribers.

That's where we come in. Our Complete Directory Service Plan gets the most and the best out of any situation. That's why we're now serving telephone companies of all sizes operating in over 4400 communities and increasing the number each year.

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